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ABSTRACT

Designed to help students in grades 9-12 understand economic terms, fundamental economic principles of the free enterprise system, and economic forces that influence activities in everyone's life, this teacher's guide provides over 50 reproducible activity sheets on the following topics: (1) scarcity and planning, (2) cost, (3) demand, (4) supply, (5) market clearing price, (6) wages and production, and (7) property rights and pollution. Although the materials were intended for use with a 7-part film series, they can be used independently to supplement any unit on economics. Each activity sheet provides a detailed synopsis of a problem requiring students to analyze information critically; compare data; provide answers to short answer and essay questions; and complete graphs, charts, and puzzle activities. A chart providing a brief description of each activity sheet and suggested grade level information precedes the activity sheets. The second part of the guide consists of teachers' copies of the activity sheets, complete with answers. (LH)

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Student Activities to Accompany the People on Market Street Film Series

A series of seven economics films distributed by the Walt Disney Educational Media Company

Michael Watts, editor

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Indiana Council for Economic Education
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Pacific Academy for Advanced Studies

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This book of activities is dedicated to the memory of one of its contributors, Mary Gheen.

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Michael Watts
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Introduction

The activity sheets that follow were prepared to serve as duplicating masters for teachers. It is not expected, of course, that all of the sheets will be used in any one class or course. The sheets *are* intended to:

1) Make students think about the content of the *The People on Market Street* film series, and literally have a "hands on" exercise in processing information offered in the films and activity sheets;

2) Encourage teachers to spend more class time pre- and de-briefing the films;

3) Extend the content of the films by introducing additional applications and, in some cases, additional concepts;

4) Reassure those teachers who may not have extensive training in economics or in the use of the films, but who would like to teach these concepts and use the *Market Street* films in their classes; and

5) Be entertaining enough to encourage teacher and student use.

The activities were field tested in a dozen classes before final editing, and while corrections and improvements were made after the first classroom use, that experience did suggest that the activities generally do meeet these objectives. It was also noted by the field-testing teachers that many of the sheets can be used with other films or audio-visual packages on economics, or even independently of other source materials other than regular classroom presentations. While the activities are primarily intended to accompany the *Market Street* films, and indeed several activity sheets can not be sensibly used without these films unless they are substantially altered, serendipitous benefits were welcome.

In the listing below, a brief and in many cases partial description of the activity sheets is provided, along with our *suggested* grade levels for most appropriate use of the activities. Again, however, the field testing confirmed our own suspicions that the same activity sheets may well be used effectively in different ways by different teachers, and in different grades and courses. Indeed, even our classification on which film the activity sheets accompany directly is sometimes open to question, and is offered only as a convenience and suggestion to teachers who often do not have the time to read through over 50 activity sheets to make their own professional judgment on where to use each sheet best.

All of those involved in the preparation of these materials would openly encourage teachers to use and modify these activities in any way that makes them more effective for their own classroom use.

A Brief Description of the Activity Sheets with Suggested Grade Levels

Film #1—Scarcity and Planning

Activity Sheet #	Title	Brief Description	Suggested Grade Level
1	Unlimited Wants— Limited Resources	The fundamental economic problem of scarcity is introduced.	7-10
2	Who Gets What	Four means of allocating scarce resources—market prices, personal characteristics (decisions by some collective planning group), queuing (first-come first-served), and violence are compared.	9-12
3	Supply and Interdependency	Students list the variety of resources and skills required to produce a book, discuss how profits provide the incentive to produce books in the U.S., and sketch out some of the major linkages between different firms and people ultimately involved in producing books.	7-12
4	Circular Flow	Students are introduced to a simple circular flow chart and assign terms such as prices, consumers, wages, and goods and services to appropriate positions in the flow chart.	7-12
5	Vacations, Ltd.	Students use a simple decision-making grid to evaluate three types of vacation, and to decide what kind of vacation they would like their family to take next year.	6-8
6	Universal Problems: Scarcity and Survival	Students must choose some items and reject others, that would help them survive a three-day hike in the mountains after a winter storm causes a serious accident. They are then asked to discuss and compare their choices with other students.	8-12

Film #2—Cost

7	Disney or Dorothy: A Difficult Decision	The concepts of opportunity and sunk costs are introduced in several questions based on a story in which a high school student must choose between a "free" trip to Disneyland or an important party. The decision-making framework is also reinforced.	9-12
8	You Mean It Costs To Choose?	Students are asked to identify scarce resources, decision-makers and opportunity costs in a series of questions involving different kinds of economic choices.	7-12
9	Was It Worth It, George?	A situation is presented in which a student must decide whether or not to accept a part-time job over the holiday season. Students are asked to estimate costs and benefits of taking the job.	8-12

Activity Sheet #	Title	Brief Description	Suggested Grade Level
10	Free Goods!	The idea that "there's no such thing as a free lunch" because *someone* must pay to provide and use the scarce resources is introduced. Students are asked to identify supposedly "free goods" in a series of hypothetical newspaper ads, and to discuss who ultimately pays for these goods.	8-12
11	What a Choice	This activity also presents an opportunity cost situation—a student must decide whether to run track, possibly earning a college scholarship, or keep his part-time job and more free time.	8-12
12	Why Do People Do The Things They Do?	Students are asked to identify the different kinds of incentives and costs that lead people to make specific economic decisions in a variety of circumstances.	7-12
13	The Cost of a Choice	Students use a simple graph (a production possibilities frontier, although it is not identified as such on the student sheet) and a crossword puzzle to identify and extend the concept of opportunity cost.	10-12
14	Planning Your Senior Prom	Students must choose where to hold their prom with what kind of band and refreshments, facing a limited budget. The idea of opportunity cost is presented in a group decision-making process.	9-12
15	Opportunity Options	The broad issue of personal and social economic goals (freedom, efficiency, growth, security and justice) is introduced for discussion, along with the idea that economic policies often entail trade-offs between these goals.	10-12
Film #3—Demand			
16	The Demand for Soft Drinks	Students determine their own demand schedule for soft drinks, then add together all student schedules to find the class demand.	9-12
17	Economic Squares	Students complete a series of short problems involving shifts in demand.	10-12
18	Test Today	A class demand for required test answer sheets is determined under special circumstances. The concept of elasticity is briefly introduced.	7-12
19	Decision Making: Too Much Information	Information is introduced as a scarce, and therefore expensive, good. That means consumers should "buy" the right amount of information, where the expected benefits are greater or at least equal to the expected costs.	7-12

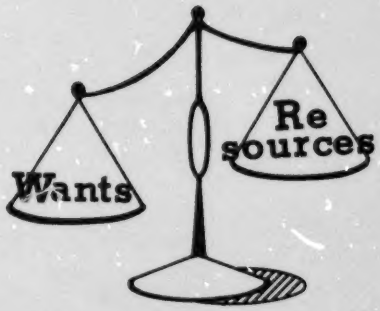
Activity Sheet #	Title	Brief Description	Suggested Grade Level
Film #4—Supply			
20	Why Ant Farms?	A basic introduction of the idea that profits represent a return for taking risks, and that different occupations and businesses face different levels of risk.	7-12
21	Too Much Profit	This exercise extends the idea of implicit costs as one kind of opportunity cost, as introduced in the film. Real profits should be calculated, when possible, by subtracting explicit and implicit costs from revenues.	9-12
22	Business Person of the Year	Steve's ant farm business is used as an example to show that high profits are likely to attract more resources and competition into production of the kinds of products earning these returns. Also, the idea that any particular product usually competes with several types of products is introduced.	9-12
23	Economies of Scale	In the film, Steve can't produce more ant farms quickly unless he charges a higher price to cover increased per unit costs. This illustrates the law of diminishing returns quite correctly. But students often point out some cases where producing more units lowers costs. These examples, when correct, reflect the concept of economies of scale, which occurs over longer periods of time when *all* inputs are variable (including capital plant and equipment) *and* there are advantages in producing at higher output levels.	10-12
24	Who Is My Competitor	Using the example of General Motors, students are asked to respond to several questions to see that even huge corporations face steep competition from a variety of other firms and industries.	7-12
25	The Role of Profits	The concepts of normal and excess (or economic) profits are introduced, to stress the idea that investors must receive some reward for taking risks or they will direct the resources into other areas.	10-12
26	Measuring Profits	This activity sheet introduces the important distinction between profits as a return on investment (for risk-taking) and profit as a return on sales (or mark-up). The former measure is much more important in stressing how scarce resources are directed in the economy, and in comparing profits for firms operating in different industries.	9-12

Activity Sheet #	Title	Brief Description	Suggested Grade Level
27	Pea Vine Corner vs. Piggly Wiggly	Non-price competition and other market and cost differences between two firms in the same industry (groceries) are examined, such as transportation costs, inventory turnover and competition.	9-12
28	Risk: Nothing Ventured Nothing Gained	Basic ideas on risk, opportunity cost and gain are reviewed in a series of eleven situations facing various businesses and workers, and in two summary questions.	7-12
Film #5 – Market Clearing Prices			
29	Walk-Woman	This exercise explores simple changes in supply and demand forces. Graphs are *not* used.	8-12
30	Supply and Demand – Graphing Practice	Shifts in demand, supply and equilibrium prices are examined in a series of questions and in one simple graph.	9-12
31	Picture This	Similar to activity sheet #30, but with somewhat greater use of simple supply and demand graphs.	9-12
32	You Must Be Kidding! What Does It Really Cost?	Some hidden costs of price controls, which are often different for different consumers, are examined in a series of short questions.	9-12
33	Finding Real Market Prices	Information and convenience are introduced as "products" which explain why prices for identical products are different at different kinds of stores.	8-12
34	When the Price Isn't Right	Shortage and surplus situations are examined in a series of short questions.	8-12
35	Scarce, Yes; Shortage, No	The idea that any product with a price higher than zero is scarce, but only products with prices below the market clearing price face shortages, is introduced in a series of questions on video game parlors.	8-12
36	Just One More Penny	The impact of taxes on consumers and producers is discussed, along with strengths and weaknesses of different types of taxes.	10-12
37	Thanks A Lot Rolling Stones	When a popular rock group decides to charge a price below the market clearing price for their last concert, questions arise on how to deal with the inevitable shortage of tickets – e.g., deciding who will get tickets, and who won't. One basic graph is used briefly.	8-12
38	Ups and Downs	Students are asked to interview several business managers to discuss their use of inventories as a buffer against changing sales. Comparing their results in the basis for a culminating class activity.	9-12

Activity Sheet #	Title	Brief Description	Suggested Grade Level
39	Subarus or Soybeans	The effect of trade restrictions on several inter-connected markets is examined in three simple graphs and a series of questions that explore who benefits and who looses as a result of the restriction.	10-12
40	When One Domino Falls. . .	The idea that changes in any one price ultimately affect many markets and prices is reviewed by examining the impact of an increased demand for petroleum engineers and a decreased supply of carpenters.	8-12
Film #6—Wage and Production			
41	How Many Workers Should Be Hired?	A demand for workers (value of marginal product) schedule is calculated and then, given information on wage rates, students determine how many workers should be hired to maximize profits in a competitive firm producing yo-yo's. The Law of Diminishing Returns is briefly explained.	10-12
42	The Only (Yo-Yo) Game In Town	This activity is similar to activity #41, except that now it is assumed that the firm is a monopolist, so students calculate a marginal revenue product schedule and see the effect on employment levels of decreased competition in an industry.	10-12
43	The Demand for Labor	Factors which cause the entire demand schedule for various types of workers to shift are reviewed. Then, students complete a table asking them to forecast future demand for 15 occupations.	10-12
44	Wage and Non-Wage Aspects of a Job	The idea that job security, risk, and other working conditions influence career choice as well as wage and salary levels is presented in a series of short questions which students must answer.	8-12
45	Steven Supershooter Signs Contact for $1 million!	The issue of high salaries for professional athletes is briefly presented in the framework of labor markets for these very specialized (and scarce) skills. Then, students are asked to review briefly expected changes in other kinds of labor markets, some non-wage aspects of jobs, and write briefly on their own career plans.	7-12
46	Automation and the Demand for Workers	Simple data on expected employment changes in industries which are affected in different degrees by automation is provided as a basis for student response to a series of questions on this topical issue.	9-12

Activity Sheet #	Title	Brief Description	Suggested Grade Level
Film #7—Property Rights and Pollution			
47	The Diminishing Breed	Buffalo were over-hunted in the American old West precisely because no one owned the buffalo herds. This corollary to the pollution issue has several current applications (e.g. whaling and the Greenpeace movement).	7-12
48	Smoking Rights For Sale	The idea that smoking rights could be sold to resolve this particular pollution problem *if* it were feasible to eliminate the costs involved in buying and selling such rights is developed in a reading and several short questions. A follow-up example and question-set is also provided, and it is noted that whether smoking or non-smoking rights are established before contracting begins, the equilibrium quantity of smoke will be about the same.	9-12
49	Question: Is Perfect Always Best? Answer: It's a Matter of Degree	Simple cost/benefit analysis and the idea of decision-making at the margin are covered in an example that looks at trade-offs between environmental purity and employment levels at a public utility.	10-12
50	Why Me?	A utility company ordered to pay to limit the spillover costs imposed by pollution from its power generating station faces the difficult political and economic issue of how to pay for the clean-up. This re-introduces the economic concept of profit, and the issue of whether rate payers or stockholders ultimately will pay if prices for electricity are increased.	10-12
51	How Do We Get More?	Spillover benefits and costs, or externalities, are reviewed and students are asked to discuss policies aimed at limiting the occurance of external costs and promoting that of external benefits.	8-12

UNLIMITED WANTS – LIMITED RESOURCES



The study of economics is based on two fundamental assumptions:

PEOPLE ALWAYS WANT MORE
and
ECONOMIC RESOURCES (such as labor, capital, consumer goods & services, time) ARE LIMITED

Because people always want more than can be produced, CHOICES have to be made. For example, you often have to choose between pizza or hamburgers for lunch, or between going to a movie or watching television at home. Everyone has to make choices.

At one time or another, though, you may have thought to yourself, "If I only had a million dollars, I'd have it made!" Is that really true?

Answer each of the following questions:

1. You receive $100 from your relatives as a graduation gift. How would you spend that money? _____

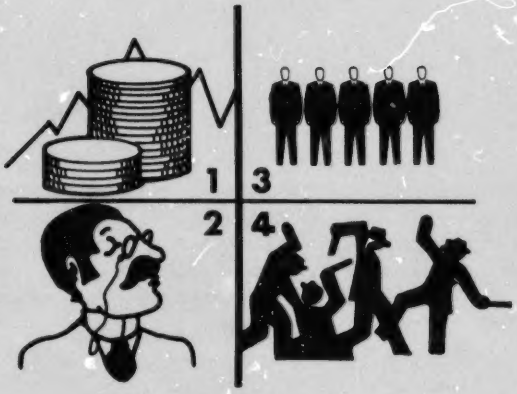
2. Your Uncle Waldo dies and leaves you $10,000. How would you spend that money?

3. You win the Illinois State Lottery and get a check for $1,000,000. Could you spend all of it? How? _____

4. If you had all the money you wanted, are there still other things you would not have enough of? (HINT: Are there some things money can't buy?) What would those scarce things be?

By now you probably see that there is NO WAY people can ever have everything they want. Though this may make you somewhat sad, it should make clear the need for making good CHOICES to get the most satisfaction from the things you can have.

WHO GETS WHAT?



One of the key questions that all economic systems must provide answers for is the question of "Who gets to consume what goods and services?" There are several ways to develop answers to this question, including:

MARKET – Anyone who is willing and able to pay the market price can have the product.

PERSONAL CHARACTERISTICS – Some agency is established to determine that any person with a specific quality or set of qualities (such as age, sex, attractive appearance or certain income levels) can have the products.

QUEUING – Anyone willing to stand in line long enough can have the product if they get in line early enough (otherwise known as first come, first served).

VIOLENCE – Anyone who can take the good and keep it can have it.

In the United States, the basic method used to determine who gets what is the market. However, other ways are used at times, or sometimes combinations of these methods are used.

For each of the following scarce resources, list which method or methods is used in our economic system to determine who will receive the product. The first one is done for you.

EXAMPLE:

Rembrandt paintings — MARKET – anyone who can pay the price

Welfare payments _____

Money from a bank robbery _____

Tickets to the Senior Prom _____

Use of roads and highways _____

High grades in your classes at school _____

Radio stations _____

Camp sites at a state park _____

Front-row seats at a free concert _____

Record albums _____

Rolls-Royce convertibles _____

Beauty contest prizes (e.g., Miss America) _____

Would it make sense to use different methods for any of these products? Can you list other products which use these four methods to answer the "Who Gets What" question?

_____

_____

_____

_____

_____

_____

SUPPLY AND INTERDEPENDENCY

Books and magazines are very common products and, at times, very useful ones. You can find out just about anything by reading a book. You can also entertain yourself with an enjoyable book or magazine. But have you ever thought about how much it takes to make one of these products? This activity will help you identify some of the resources needed to produce a book, and help you see that production is a complex business, involving hundreds of people—some of whom may not even know that they help make these products.

1. First, list all the MATERIALS that you might need to produce a book. Where could you obtain these materials?

_____

_____

_____

_____

_____

2. Next, list all the PEOPLE that might be involved in producing a book.

_____

_____

3. Now, tell what other resources or things a book company might need to produce and sell a book.

_____

4. Why are all these resources used to make books? _____

_____

_____

Obviously, a large number of people, machines, and other resources are needed to set up a book company. Even more people, machines, and resources are needed to bring everything together in one place so the book can be produced.

5. On the back of this page or on another sheet, design a flow-chart diagram of your own that shows the general steps and resources involved in book production.

CIRCULAR FLOW

Just like Market Street, your neighborhood has a variety of people all working at different jobs. See if you can name nine different BUSINESSES that hire people who live in your neighborhoods.

_____ _____ _____

_____ _____ _____

_____ _____ _____

All of these businesses offer a GOOD or SERVICE to people who are willing and able to pay for it. The people who buy the goods or services and use them are called CONSUMERS. All the members of your family (including you!) are consumers because you use things that are bought from businesses.

Many consumers also work for businesses as producers. These people may be doctors, carpenters, secretaries, salespeople or lots of other things. List some jobs that people in your neighborhood have.

_____ _____ _____

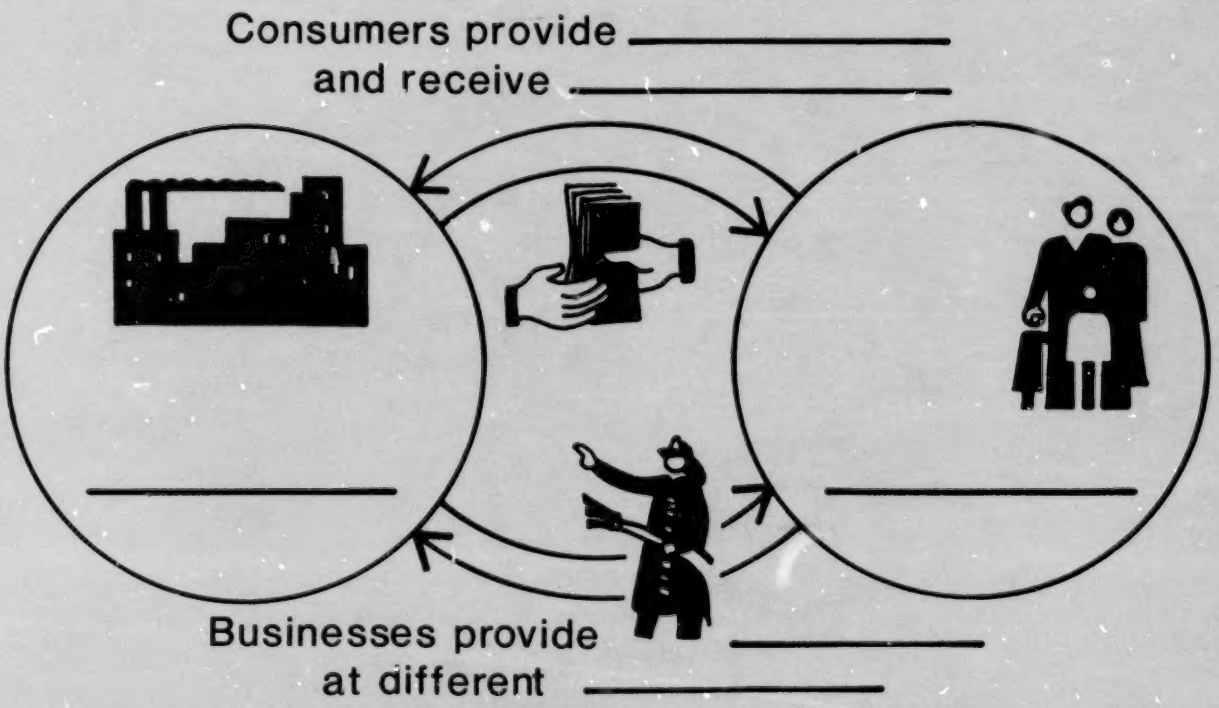
_____ _____ _____

All these people work for two main reasons: partly because they like their work, but usually because they get paid for it. The pay is known as WAGES or SALARIES. Then workers use their wages to buy goods and services from business and consume the products they buy. The money paid for a good or service depends on the PRICE of those products.

See if you can fill in the chart below.

WORDS TO USE

Prices	Consumers
Work	Goods and
Wages	Services
Businesses	



VACATIONS, LTD.

Describe briefly what you did on your vacation this past summer. _____

_____

_____

_____

_____

Did you and your family have different ideas as to where you might go on vacation? Was there a choice between some resort-type vacation and visiting relatives? Did the cost of the vacation and the time of summer when you could all leave affect your decision?

The decision-making grid below shows some vacation alternatives. Use a + and – symbol to indicate how you would evaluate each possible vacation against each of the criteria listed.

	CRITERIA			
ALTERNATIVES	MONEY COST	TRAVEL DISTANCE	INTERESTING & FUN	SEE OTHER LOVED ONES
Disneyland				
Visit Grandma & Grandpa				
Go to the beach				

Now list your own vacation and the kinds of vacations some of your friends took this summer in the blank spaces in the "alternatives" column above. Use the + and – symbols again to decide which of those vacations you think your family should take next year.

The opportunity cost of one choice is giving up the *next best* alternative. Indicate below what you feel was the opportunity cost of your vacation decision this year.

_____

_____

_____

_____

UNIVERSAL PROBLEMS: SCARCITY AND SURVIVAL

Resources like labor, capital, energy, consumer goods and services and time, are scarce relative to all the things people want to buy and do. This activity sheet will help you see that because we live in an economic world of relative scarcity choices are inevitable, and that all choices involve costs.

*Survival**

Imagine that you live in Colorado and that a friend stops by your house on a Saturday morning in October. He suggests that you go with him for a day-long drive in the mountains to try out his new jeep. You quickly pull on jeans, a t-shirt and sneakers and go along. By late afternoon you are on a trail in a remote part of the Rockies, when suddenly a snow storm blows up. The trail soon becomes almost impassable and you can hardly see where you are going. Suddenly the jeep starts to skid and you plunge several hundred feet down a steep mountainside. Your friend is killed instantly and the jeep is completely wrecked, but fortunately you have only a few scratches. You believe you are thirty to forty miles from the nearest source of help. Luckily you discover a summer cabin nearby. Although it has no heat, except a wood burning fireplace, and no telephone, it does offer shelter and about a week's supply of food. You realize that you cannot hope to stay in the cabin until you are rescued, for no one has any idea where to start looking for you. Therefore, when the weather starts to clear up, leaving almost three feet of dry powder snow, you decide to try to follow the trail between the large trees and rocks back to civilization. You are fortunate that the cabin is well stocked with camping equipment and other supplies and you can find almost anything you want. But you also know that your survival over the three days it will probably take you to reach help will depend partly on how carefully you select what equipment to take. You cannot carry more than 50 pounds of supplies over this distance in these conditions. Decide which of the items you will wear or carry from the list of materials and their weights.

A. _____ wool hat (1 lb.)
B. _____ heavy wool mittens (2 lb.)
C. _____ axe (8 lb.)
D. _____ 50 feet of 1/8" rope (1 lb.)
E. _____ saucepan for melting snow for drinking (3 lb.)
F. _____ folding camping saw (1 lb.)
G. _____ rock-climbing gear, including rock hammer (10 lb.)
H. _____ 150 feet of 7/16" rope (8 lb.)
I. _____ gasoline camp stove and fuel (10 lb.)
J. _____ plastic canteen filled with water (2 lb.)
K. _____ one large can of beef stew (10 lb.)
L. _____ fire-starting kit, including matches (½ lb.)
M. _____ heavy wool jacket with hood (10 lbs.)
N. _____ pack frame and bag (6 lb.)
O. _____ five two-pound cans of soup and vegetables (10 lb.)
P. _____ sleeping bag (5 lb.)
Q. _____ downhill skis, bindings, poles (10 lbs.)
R. _____ air mattress (3 lbs.)
S. _____ down-filled jacket without hood (3 lb.)
T. _____ high-top hunting boots (6 lbs.)
U. _____ snowshoes (5 lbs.)
V. _____ canvas tent (15 lbs.)
W. _____ plastic tarp (2 lbs.)
X. _____ eight boxes of high protein dry cereal (4 lbs. total)
Y. _____ first-aid kit with splints and other equipment for bone fractures (4 lbs.)
Z. _____ first-aid kit without splints, etc. (1 lb.)
AA. _____ heavy wool pants (4 lbs.)
BB. _____ knife with can opener (½ lb.)

Answer the following questions related to the above simulation:

1. What is scarce? _____

_____

*_Survival_ is adapted from the "Outdoor Endurance Exercise" by Stanford, G., and Roark, A. *Human Interaction in Education*. Boston: Allyn & Bacon, 1974.

2. Why were choices necessary? _____

_____

_____

3. What were the costs of the choices you made? _____

_____

_____

4. Would everyone make the same choices? _____

_____

_____

Disney or Dorothy: A Difficult Decision

Dan won a trip to Disney World as newspaper carrier of the year. The only charge he must pay is a $15 registration fee. The prize pays for his bus ticket, meals, housing, and admission ticket. Dan is so excited that he no longer minds not getting a new 10-speed bike for his birthday. (His parents had told him that they just couldn't afford to spend $200 for a bike.)

Dan discusses the coming trip with his best friend Fred:

"Fred, I can hardly wait until Saturday. That's when I leave for Disney World."

"But Dan, Saturday is Dorothy's party. It's the first time that your parents have allowed you to go to a party with a . . . a . . . you know, a *girl*!"

"*Saturday*? I thought the party was *next* Saturday!"

"Boy, are you lost in space! Dorothy has been planning that party for weeks. What are you going to do? You sure can't do both!"

"I don't know, Fred. That Disney World trip is worth as much to me as a new bike, but I really want to go to Dorothy's party, too."

"Why don't you exchange tickets for another week?"

"That won't work. I have to use them *this* Saturday, and I can't even sell or trade them to someone else. That's the way this prize is set up."

"Well, at least you paid only $15 for the trip. You haven't lost much if you decide to stay in town for Dorothy's party."

"I'm not so sure, Fred. The trip to Disney World is worth a lot more than $15 to me. The real cost of staying home feels more like $200. Anyway, that $15 is a sunk cost—it's down the drain whether I go or not."

---

1. Is Fred right? Would it cost Dan only $15 to stay home from Disney World? Or is Dan right— is the $15 already "down the drain," whether or not he goes to Disney World? Why? _____

   _____

2. What other things might Dan do on this weekend? Are all of those things a real cost of doing whatever he finally does decide to do? _____

   _____

   _____

3. Dan must decide whether or not to go to Dorothy's party.
   (a) How would *you* decide. List the steps in your decision.

   (b) Often it helps to write down alternatives when we have to choose. Use the chart below to help you compare the alternatives. Use pluses or minuses in the boxes to show how well each of the alternatives satisfies the criteria. You may wish to add additional alternatives or criteria that you think are important.

Criteria / Alternative	Are there other costs?	Will I have fun?	Will my parents approve?	Can I delay it until another time?	
Attend Disney World					
Attend Dorothy's party					
Stay home all weekend					

(c) Are some of these criteria more important to you than others? How does that influence your choice? _____

_____

_____

_____

4. List below the costs and benefits of attending the party. Can you put a dollar value on these costs and benefits?

Costs	Benefits
_____	_____
_____	_____
_____	_____

5. Would your answer to #3 above be different if Dan could trade in his ticket for a different week? Why or why not? ____

_____

6. In what way is Dan's $15 "down the drain" if he goes to the party, *or* if he goes to Disneyland? _____

_____

_____

_____

You Mean It Costs To Choose?

An economic choice allows us to have one thing only at the expense of giving up something else that we might like to have. Suppose a person had only enough time to devote to a part-time job to receive $10 a week in wages. However, each week the person wants to buy more than one $10 item. The real cost of buying that most wanted item is not being able to purchase the next most wanted item. In the following set of examples, each case has four identical elements—a choice-making opportunity, a scarce resource, someone who must make a decision and an opportunity cost. After reading each example, identify the key elements in the space provided, then explain briefly why you made the choice you did.

Ex. 1. Heather Alcorn can use her after school hours to work at Johnson's Market *or* participate in a varsity sport.

Decision Maker: _____

Scarce Resource: _____

Choice You Would Make: _____

Why: _____

Cost of Your Choice: _____

Ex. 2. Peter Halmos can use the $10 he received to buy some new books *or* the cassette tape he wants.

Decision Maker: _____

Scarce Resource: _____

Choice You Would Make: _____

Why: _____

Cost of Your Choice: _____

Ex. 3. Mrs. Beniquez can rent her spare bedroom to a college student *or* use it for her sewing room.

Decision Maker: _____

Scarce Resource: _____

Choice You Would Make: _____

Why: _____

Cost of Your Choice: _____

Probably not all students in this class will have made the same choices in all three examples. Why do you think that different people make different choices? _____

_____

_____

_____

BUT, not all decisions are as simple as the ones we just finished: the decision maker is not always an individual, and the choices are not always limited to two. When there are more than two choices, the opportunity cost of a choice is only the value of the next best choice, *not* the value of all the remaining choices.

NOW, try these two examples:

Ex. A. Because of a poor crop, a small, family-owned, peanut company decides to produce only one product instead of making the three products it usually makes. In a close vote, forty shockholders vote to produce dry roasted peanuts, thirty-five vote to produce peanut oil, and twenty-five vote to produce peanut butter. As a result, the company decides to use all their peanuts in the production of dry roasted nuts.

Decision Maker: _____

Scarce Resource: _____

Choice Made: _____

Cost of Choice: _____

_____

_____

Ex. B. In a difficult choice, the class of Elk Hill High School decides to spend the money it made from the car wash/bake sale to hire a better band for the prom rather than to purchase a new cold water fountain for the school or to refurnish the student lounge.

Decision Maker: _____

Scarce Resource: _____

_____

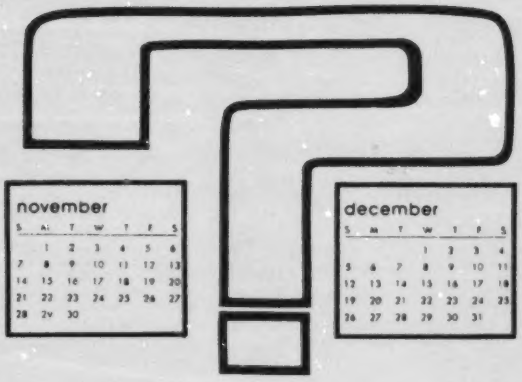
Choice Made: _____

What do you need to know before you can know the cost of their choice? _____

_____

_____

WAS IT WORTH IT, GEORGE?



We have all done things we wish later we had not done. At the same time, we have all made choices we were happy with later. This worksheet will help you know in advance whether you are likely to be happy or sad with a particular choice.

* * * * * * * * * * *

You have been offered a part time job from November 1 to December 31. You will work at a shoe store from 7:00 to 8:00 before school and from 3:30 to 5:30 after school Monday through Friday, and from 6:00 to 10:00 at night on holidays and every Saturday. You will receive $3.00 an hour after payroll deductions are made.

1. How much money will receive if you take the job?
   (Count the hours you will work and multiply by $3.00.) _____

2. Estimate how much extra you will have to spend because you take the job?

Special clothes	$ _____	
Traveling to work and home	$ _____	
Hire your brother, sister, or someone else to do your work at home.	$ _____	
Other	$ _____	
TOTAL		$ _____

3. How much money will you have left after paying these expenses? $ _____

4. Write a sentence telling how you would use this money. _____

_____

There are advantages and disadvantages to having a job before and after school and on holidays. Consider the following points, and put an x in either the advantage or disadvantage column to indicate whether you think it would be to your advantage or disadvantage to take the job.

		Advantage	Disadvantage
1.	Spending your money as you described in #4 above.	_____	_____
2.	Contacts for future jobs.	_____	_____
3.	Working with fellow employees.	_____	_____
4.	Meeting people.	_____	_____
5.	Pleasing your parents.	_____	_____
6.	Social life.	_____	_____
7.	School grades.	_____	_____
8.	Working Thanksgiving and Christmas day.	_____	_____
9.	Other (explain) _____	_____	_____
	Put a * next to the advantages or disadvantages you feel are very important. TOTAL # of *'s in each column	_____	_____

Would you take this job? _____

If there are more important advantages than disadvantages in taking the job, you will be happy you worked. If there are more disadvantages, you will be sorry. But remember, it all depends on which things *you* think are most important.

The more realistic you can be in deciding the dollar value of the job to you and the better you can list and evaluate the other advantages and disadvantages of having a job, the more you can tell in advance whether you will be happy or sad with your choice to work or not work. Next January, when someone asks, "Was it worth it, George?" you can usually say "Yes, just as I thought it would be"—*if* you do a careful job in planning and decision making now.

FREE GOODS?
—THERE IS NO SUCH THING AS A FREE LUNCH
—SANTA CLAUS IS DEAD
—EVEN EDEN CHARGES ROOM AND BOARD

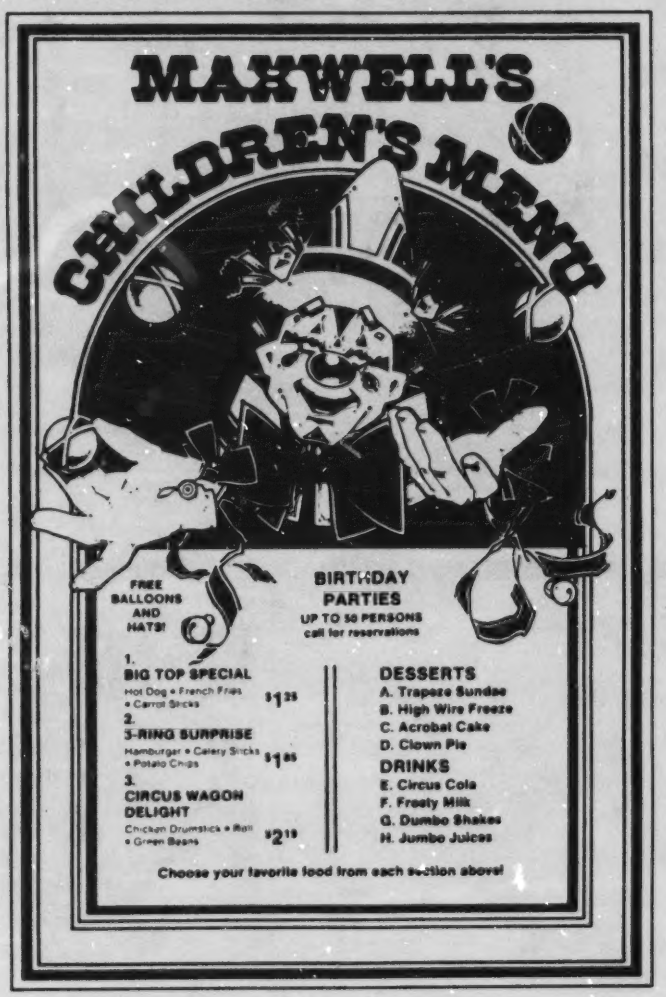
Each of these sayings reminds us that there are very few free goods in this world. Costs are almost always involved when we attempt to satisfy our wants. But, since air can usually be obtained without giving up something of value, it is considered to be a *free* good. Can you identify other free goods?

_____ _____

_____ _____

However, we always see and hear advertisements offering supposedly *free* goods: "Buy one, get one free," "Free trial size granola bar inside," "Free toaster for opening an account." Upon close examination, each of these free offers includes direct or indirect costs such as money, time, and opportunity costs.

Examine the following advertisements and identify the supposedly *free* goods or services. Also, identify the costs of the free goods or services and determine who eventually pays each of the costs. Remember that there are often implied opportunity costs. Costs can be hidden or passed along, but they cannot be avoided.



BEST COPY AVAILABLE

Supposedly free good _____

COSTS	WHO PAYS
_____	_____
_____	_____
_____	_____
_____	_____

Free pair Adidas
to First Place!
Open to All Who
Have Running Experience
Course consists of a 23-mile run
through the streets of the downtown area
SAT., JULY 9, 8 AM
CASH PRIZES IN MEN'S & WOMEN'S CATEGORIES
ENTRY FEE: $12 PER PERSON PAYABLE DAY OF RUN
SPONSORED BY RIVER CITY CHAMBER OF COMMERCE

RIVER CITY RUN'83

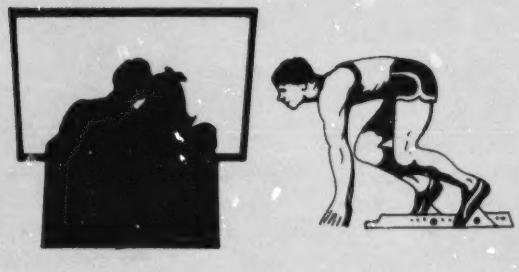
Supposedly free good _____

COSTS	WHO PAYS

Supposedly free goods _____

COSTS	WHO PAYS

WHAT A CHOICE!



Jim Cooper has a tough problem. Jim is a senior at Rocky Mountain High, and Coach Hamilton, the track coach, is trying to talk Jim into going out for track again this year. Last year Jim was on the team and he did fairly well in both the 110 and 220 hurdles. But Jim is 3 inches taller and much stronger than he was at this time last year. Coach Hamilton told Jim that the team will have a part-time assistant coach who ran the hurdles in the Olympics a few years ago. The coach told him "You have the talent to be really good, Jim, and with Coach Baxter's help you might even improve enough to be awarded a college scholarship."

The problem is that for the past several months Jim has been very busy in the afternoons and evenings. He has been working 15 hours a week as a stock clerk at a large grocery store earning $4.00 per hour. Also, he has been spending about 2 evenings and one week-end afternoon per week with Sherry Simpson playing cards, video games, records, etc. Most of the money Jim has earned has been used to buy and operate a used car he bought from his uncle two months ago, but some of his earnings have been saved for his college expenses and some money has been used to take Sherry to some movies and concerts.

If Jim goes out for track, he will have to quit his job for 16 weeks, and he will only be able to see Sherry one afternoon a week.

List all of the costs Jim must pay if he goes out for track:

Monetary Costs	Nonmonetary Costs
_____	_____
_____	_____

What is the total cost to Jim of going out for track? _____

_____

_____

_____

Describe a decision-making situation you have faced that included weighing both monetary and nonmonetary costs. _____

_____

_____

_____

_____

If you were Jim, what do you think you would do? What are the major benefits and major costs of his alternatives?

Major Benefits: _____

_____

_____

Major Costs: _____

_____

_____

Conclusion: (What would you do?) _____

_____

_____

WHY DO PEOPLE DO THE THINGS THEY DO?

Economics, like all social sciences, tries to explain how people behave. Specifically, economics tries to show how people make choices among all the scarce things that are potentially available to them. There are many reasons why people make the choices that they do make, but it is important to remember that people usually make their *own* choices for themselves, and do what is best for themselves as they see it.

Read each of the following paragraphs. After each, tell why you think these people do the things they do.

1. George Robinson works for the Einstein Steel Corporation. Each day George gets up at 6:00 AM, eats breakfast, and goes to work. He works from 7:00 AM to 3:00 PM. George says he can't stand his job because it is dirty and boring.
   Why does George go to work? _____

2. Paul Ramirez is a wealthy bank president in southern New Mexico. Each year he gives an anonymous donation of $10,000 to his local church.
   Why does Paul give away money? _____

3. Peter Prentis is a volunteer fireman. About twice a week he goes out to fight a fire, sometimes in the middle of the night or during his time off from work. He realizes that his job as a fireman is dangerous.
   Why is Peter a volunteer fireman? _____

4. Cathy Grant is a mother with two young children. She works as a secretary for Mr. Bell at the telephone company. She likes her job fairly well, but would rather be home when her children come home from school.
   Why does Cathy continue to work? _____

Every economic choice people make involves a cost. Can you identify the cost for each of the situations above?

George _____
Paul _____
Peter _____
Cathy _____

In each of the above cases, a person does something for a reason. Can you make a generalization about why those people do the things they do? _____

Can you think of another example of a person who does something that he or she might rather not do? Does your example fit the generalization you made above? _____

THE COST OF A CHOICE

Human and non-human resources are scarce relative to all the things we want to produce with them. This activity will help you see that when we decide to use scarce resources to produce one thing, they cannot be used to produce something else. That real cost must always be paid by someone in a world of scarcity, even when resources are used most efficiently.

Make a Choice

Suppose you have one hour of time, 100 sheets of paper, a stapler, and a set of colored pencils. List four ways you could use these resources, with 1 representing your first choice, 2 you next best choice, etc.

1. _____ 3. _____

2. _____ 4. _____

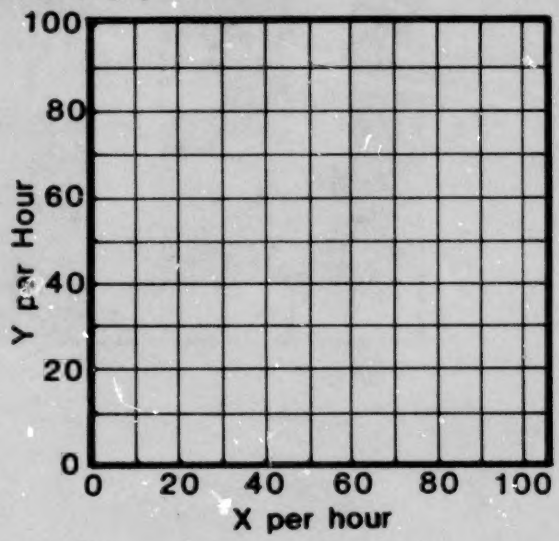
1. What is the cost of using your resources to make No. 1? _____

_____

_____

2. Label your first choice X. Label your second choice Y. Assume you could produce the amounts of X and Y shown below in one hour. Plot the production possibilities of X and Y on the graph.

Product X	Product Y
90	0
88	10
85	20
80	30
74	40
68	50
57	60
47	70
35	80
20	90
0	100



3. What is the cost of increasing the output of Y from 40 to 50? _____

_____

_____

4. What is the cost of increasing the output of X from 88 to 90? _____

_____

_____

5. What is the cost of producing only 10 units of X and 10 units of Y? _____

_____

_____

_____

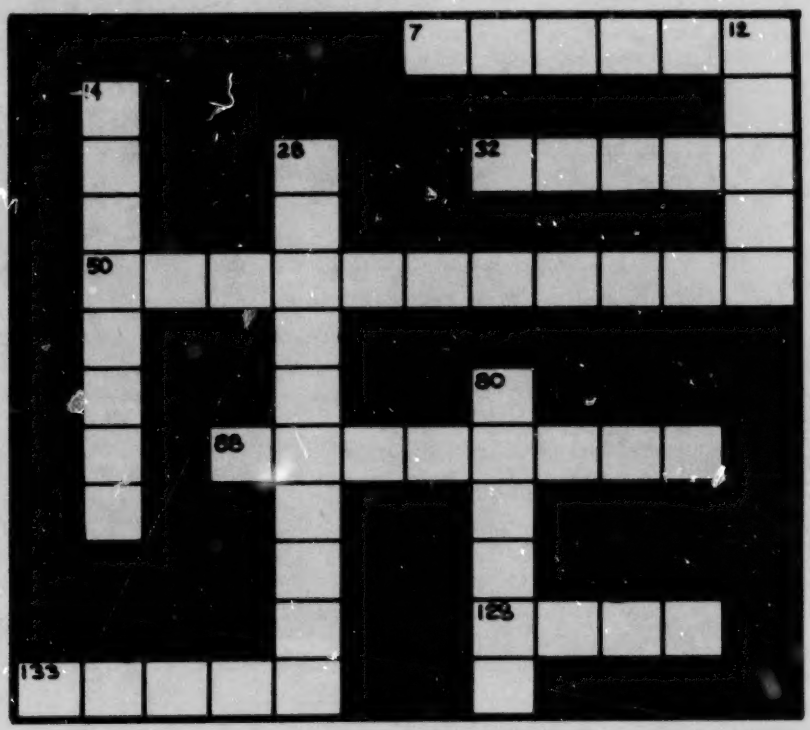
Complete this crossword puzzle to review the terms you have used in this worksheet.

Across

7. Decision
32. Desires
50. Real costs
88. When wants exceed resources
128. Opportunity _ _ _ _
133. A kind of resource

Down

12. One way to use a sheet of paper
14. Human and non-human
28. What resources are used for
80. Resources relative to wants



PLANNING YOUR SENIOR PROM

Your class has been engaged in various fundraising projects during the past several years, and you now have a total of $3,283.46 that you can spend on a big bash—a school dance. You *cannot* spend more than this amount on the dance, but you do not have to spend all of it on the dance. Any part of this money that is not used for the dance can be used for the "senior-class school improvement project" that has been selected by your class.

You have decided that there are three categories of expenditures for the dance: 1) hiring a band; 2) renting a place to hold the dance, and 3) providing for refreshments, decorations, flowers for the Queen of the Ball, etc.

Various committees have investigated the costs of hiring bands, renting facilities, and providing refreshments, and they have provided the following information:

Bands Available for Dance

Cost	
$ 150	The Teeny-Bopper Trio—rather plain, but cheap
500	Grand Punk Railroad—loud, cheap, and dirty
1000	The Jubilation T. Cornpones—good progressive country
1200	Tangerine Flakes—fairly good rock and roll
2000	Fred Zeppelin—very good acid rock
2500	The Bounding Rocks—a touring group from England—good imitators of more famous English groups
3000	Philadelphia Transit Authority (the PTA)—nationally known, 2 gold albums, versatile rock and roll

Places Available for Dance

Cost	
$ 40	School gym
250	American Legion Hall
500	Holiday Inn
750	The Hilton Hotel
1200	The Knob Hill Country Club

Refreshments and Decorations for Dance

Cost	
$ 200	Home Economics classes fix sandwiches and decorations
500	Catered—simple snacks and decorations
1000	Catered—good stuff—fancy snacks and neat decorations
1500	Package deal—fairly good snacks and decorations at dance and after-dance meal at a plush restaurant

Your task now is to decide, first considering only your own preferences, which band to hire, where to hold the dance, and what type of refreshments and decorations to provide. You *must* select one item from each expenditure category.

Band you would hire	Place you would choose	Refreshment package you would choose
_____	_____	_____

List one trade-off you had to make in your own choices—e.g., did you give up some desirable refreshments to hire a more expensive band.

_____

Now, with your classmates, choose by voting on which set of alternatives you would combine for your class prom.

Band class would hire	Place class would hire	Refreshment package class would choose
_____	_____	_____

Was your class able to satisfy everyone's preferences? _____

_____

What trade-offs did you face as a class that you did not face in listing your own preferences? _____

_____

OPPORTUNITY OPTIONS: A MATTER OF INDIVIDUAL AND SOCIAL CHOICE

Today our class is meeting to represent the citizens of our society in order to have an important election. The decisions made in this election will have a major impact on the economic future of our nation. Before us are five broad economic goals we would like to achieve. Because resources are limited, however, we can not meet *all* of these goals. Sometimes, in fact, things we do to achieve one goal move us further away from achieving others. Therefore, we must rank these goals in order of their overall importance to us individually and as a class. In order to determine what portion of our scarce resources we will devote to each goal we are going to rank them by voting. We will vote five times. The highest-rated goal in each round will be ranked and removed from the next round of voting. The five goals are:

(A) ECONOMIC FREEDOM: including the freedom of consumers to decide how they will spend their income, freedom of workers to choose their jobs, and individual's freedom to establish a business of their own.

(B) ECONOMIC EFFICIENCY: using the least amount of resources to produce a given output, and producing what consumers want most.

(C) GROWTH: to experience a continuous, long-term growth in the output of goods and services, accompanied by a rise in the standard of living from generation to generation.

(D) ECONOMIC SECURITY: protection against economic risks—including inflation, unemployment, poverty and business failures.

(E) ECONOMIC JUSTICE: economic fairness in exchange and an equitable distribution of income.

QUESTIONS FOR DISCUSSION AFTER THE ELECTION

1. Why can't our society fully realize all of its goals? _____

2. Could the group rank the choices in the same order that each individual would have? Why or why not? _____

3. The cost of more nearly achieving one goal may be giving up a portion of another goal—for example, explain how trying to gain greater secutiy could cost some growth. _____

4. If our society could reach only its first goal, what would be the opportunity cost of reaching that goal? _____

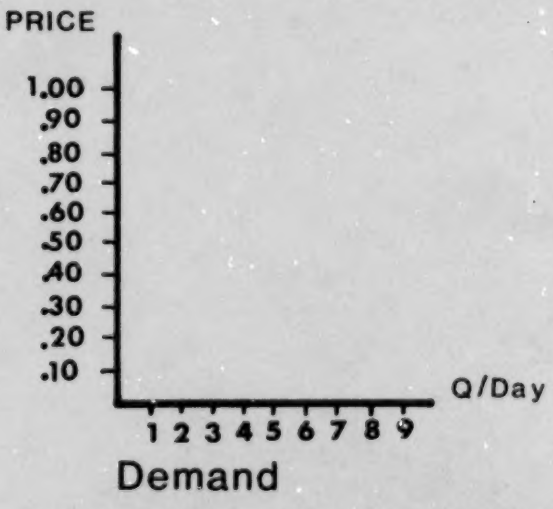
THE DEMAND FOR SOFT DRINKS

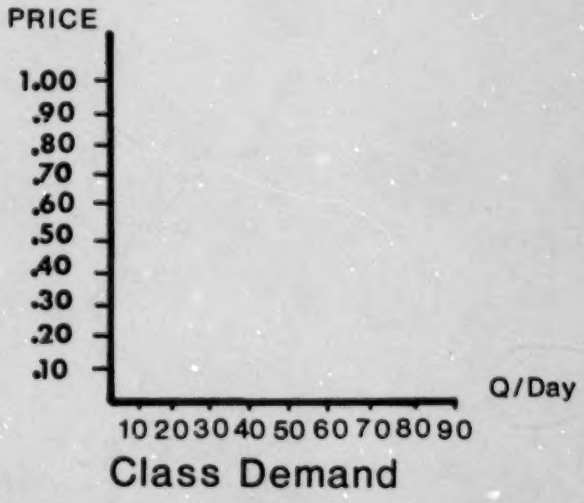
Suppose you haven't been able to buy soft drinks anyplace in your school or to bring them from home, but now your school is considering selling soft drinks to students at lunch period. Part of the money earned will be dedicated to different student groups, such as the school band and chess club. The survey below will provide useful information about market demand to the school administrators.

Indicate below how many soft drinks you would buy each day, on average, at each of the different prices listed in the first column. All soft drinks must be consumed at lunch—you will not be able to take them to class or save them to take home after school.

Price	Number of soft drinks I would buy	# soft drinks class would buy
$1.00	_____	_____
.90	_____	_____
.80	_____	_____
.70	_____	_____
.60	_____	_____
.50	_____	_____
.40	_____	_____
.30	_____	_____
.20	_____	_____
.10	_____	_____

Plot your responses on the left graph (below) and label the line "Demand."





Your teacher will now poll your class to find how many soft drinks would be purchased at each possible price by your class. On the right graph above, plot the results for the whole class. (Remember, you want to know how many soft drinks people will buy, not just how many people will buy some drinks at each price.)

Law of Demand: People buy less of a good or service as price rises, and more of a good or service as price falls.

Questions:

1. Do your graphs follow the "law of demand," as stated above? _____

_____

_____

_____

_____

_____

2. Why do you think the "Demand" line on the graph for your class has the shape that it has? _____

3. At very low prices, even though people buy more soft drinks, they don't buy an unlimited number. Why? _____

4. Suppose a repeat of this survey of your class next week yields entirely different results. What factors could shift the entire demand line? _____

5. What would happen to the demand line if your teacher provided free Kool-Aid at lunch for your class? Would there be any demand for soft drinks? Explain. _____

ECONOMIC SQUARES

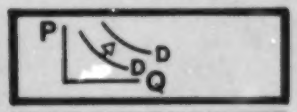
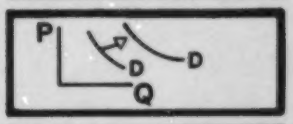
At age one, it's bubble gum.
At ten, it's Pac Man games.
At twenty, it's cars;
At thirty, it's bars.
And at forty, we'd buy more brains.

****

The demand for gum and games and other things we buy changes for the following reasons:

1. changes in individual tastes
2. changes in the price of complementary items
3. changes in the price of a substitute item (for example hot dogs or hamburgers)
4. changes in income
5. changes in population
6. expectations of future price changes

Review the first example below (peanut butter), then fill in the empty square in each of the other sequences. (Work across the page, from left to right.)

	Item	Event	Reason for change in demand	Use an arrow to show the direction of change
	Peanut butter	Scientists discover that eating peanut butter cures acne.	Change in tastes—young people buy more peanut butter because they see it as a cure.	
1.	Kool-aid	The price of soft drinks goes up to $2.50		
2.	Non-designer jeans		Change in tastes.	
3.	Baby food	Fewer babies are born.		
4.	Video games	Your allowance is cut in half.		
5.		Material used to manufacture razor *blades* goes up in price.	Change in the price of complementary goods.	

GOOD NEWS/BAD NEWS

Demand for certain goods or services is less responsive to changes in price than for other goods or services. For example, you would probably be willing to buy about the same amount of insulin if you were diabetic, even after several big price increases. But, you almost certainly won't continue to buy the same amount of record albums and most other products following several large price increases. Let's see if we can find a demand curve for some good that isn't very responsive to price changes in the class.

Suppose your teacher announced to the class: "Today we will be taking a standardized achievement test. *All* students *must* take this test – no one can receive a passing grade in this course without taking the test."

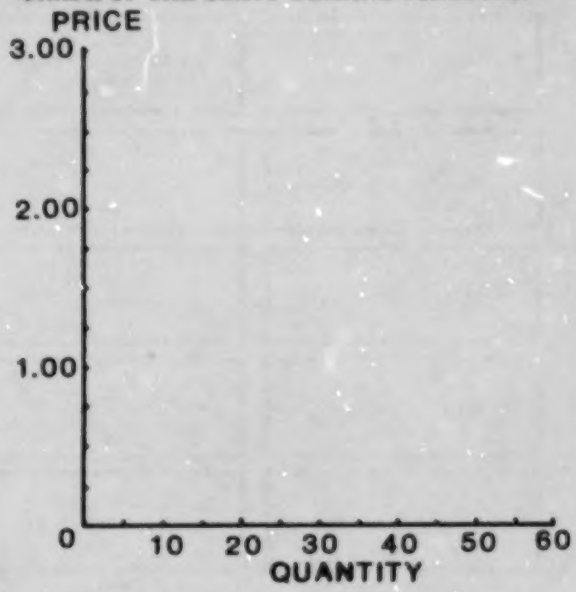
The teacher continues, "Now, I have some goods news and some bad news for you. First the good news! You won't have to use your own paper to take the test. This test can only be taken on the official answer sheet supplied by the 'Cribsheet Testing Company,' the publisher of the test. Now the bad news! Due to a cutback in the school budget, you will be required to buy your own answer sheets. And there may not be enough answer sheets for everyone in the class. Of course, you must realize that the top price you will be able to pay is limited by the amount of money you brought to class today, or the amount you can borrow from your friends. The school can't afford to give you a loan, so you must pay today."

"Before I announce the price of these answer sheets, I would like to determine your own demand for answer sheets on the table below, and have you graph the quantity demanded by the entire class on this work sheet. Now, how many of you will be willing to buy answer sheets at the following prices?

ANSWER SHEET DEMAND SCHEDULE

Price	Quantity
.25	_____
.50	_____
.75	_____
1.00	_____
1.25	_____
1.50	_____
1.75	_____
2.00	_____
2.25	_____
2.50	_____
2.75	_____
3.00	_____

GRAPH OF THE CLASS' DEMAND SCHEDULE



1) What is unusual about the shape of the line on the graph? _____

2) What might be some of the reasons students have for dropping out of the market at the higher price levels? _____

3) Did changes in the price of answer sheets affect the quantity demanded by students? _____

4) When changes in price result in little or no change in the quantity demanded of a product, we describe the demand for that product as being inelastic. How would you describe the demand for answer sheets in this class? _____

5) What might be some other goods or services that might have inelastic demand at relatively low prices? _____

6) What goods or services seem very responsive to relatively small changes in price? _____

_____

_____

DECISION MAKING: TOO MUCH INFORMATION

If you wanted to be more certain that you would be satisfied with the following products and the price you pay for them, which of the sources listed below would you usually check out for information about price, quality, features, and warranty? (Place an "X" in the appropriate column.)

Product	Apprx. price per unit	Newspaper	Shopping	Salesperson	Friends	CONSUMER REPORT	Trade Guide	Owner's Manual	None
Popcorn popper	$12.99								
Soft drinks	$0.50								
Eyeglasses/ contacts	$125.00								
Calculator	$8.00								
Stereo unit	$1,000.00								
Moped	$350.00								

1. Which source of information is most likely to involve higher costs? Why? _____

_____

_____

_____

_____

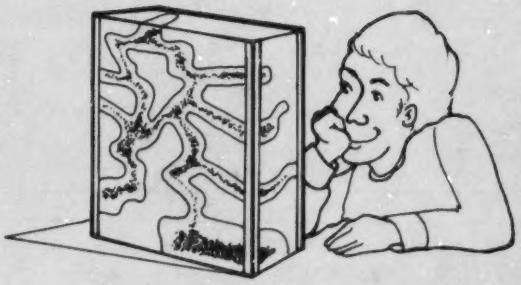
2. Would you spend more time and money to get information on some products than for others? Why? _____.

_____

_____

_____

WHY ANT FARMS?



When Steve Mann went into the ant farm business, he took a big chance—he might have *lost* the money he and others invested in the company. Why are people such as Steve and the other stockholders willing to take risks? Because they expect to be repaid for assuming the risks. Just as persons who provide labor services must be paid wages (and people who provide land and natural resources must be paid rent and people who provide funds for investment must be paid interest) people who take risks in organizing production activities must be paid *profits* in order to induce them to undertake these risks.

But people also take risks when they select a career or take a job. A person might decide on a career in petroleum engineering and then find, after studying for 5 years in college, that the demand for petroleum engineers has decreased greatly because of some technological advances in locating and obtaining crude oil or substitutes for oil.

All jobs involve *some* risks—wage levels may increase slowly, unemployment may be frequent, workers may be replaced by more productive workers (or a machine), co-workers may be unpleasant, etc.

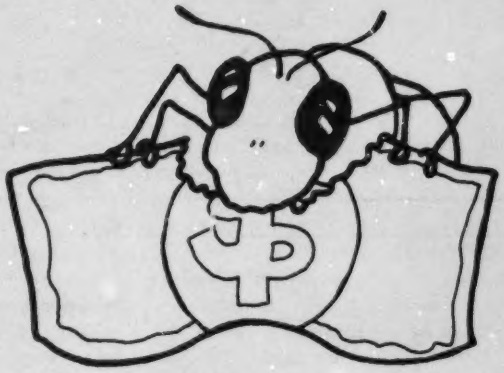
In general, jobs which offer the change to achieve *spectacular* success—fame and fortune—offer a *much* greater chance of failure. And, in general, jobs which provide relative security of employment and wage levels offer little chance of spectacular success.

Using the 1-10 scale below, how would you judge the "riskiness" of the following occupations:

some chance of spectacular success, but very large chance of failure									small chance of spectacular success, but relatively small chance of failure
10	9	8	7	6	5	4	3	2	1

_____Professional football player
_____Rock music "star"
_____High school teacher
_____Police officer
_____Secretary
_____Physician
_____Attorney
_____College professor
_____Automobile mechanic

Now, how you would rate the *overall* desirability of the ten occupations on a scale of one to ten with 10 = most desirable. The riskiness of a job is an important consideration in career choice, but there are other important considerations too. People must have the ability and training necessary for various jobs. Even if you were willing to play shortstop for the New York Yankees for *no pay*, you wouldn't get the job. There are also important nonwage aspects of jobs. Some people take jobs that offer less pay or other less desirable working conditions than in jobs they are capable of doing simply because their jobs provide them greater personal satisfaction.



TOO MUCH PROFIT

$20,000 profits sounds pretty good for a beginning businessman in the ant farm industry. It might be, but did Steve forget to consider a cost? (Hint: Think of Steve's other opportunity for employment.)

Study the chart listed below and calculate the expenses, revenues and profit for Steve's ant farm business. The items listed as expenses are called *explicit costs* or actual dollar costs.

YEAR-END REPORT: S/M ANT FARM BUSINESS

Expenses		Revenues	Profit
Labor	$106,230.00		
Materials	$ 52,680.00	38,520 ant farms sold	Revenues
Building; Office	$ 25,410.00	@ $6.00 per farm	minus
Equipment; Supplies	$ 18,320.00		Expenses
Advertising	$ 4,140.00		
Miscellaneous	$ 1,860.00	_____	_____
TOTAL			

Next you should complete the chart below. Note the last item in the expense column. According to the film, Steve did not pay himself a salary. He had been working at his Uncle Lester's gas station during the year before he started his ant farm business. Steve should have considered his salary at the gas station as a cost of doing business. He could have earned that salary at the gas station as a cost of doing business. He could have earned that salary without facing the *risk* of losing money, which he accepted when he opened the ant farm business. Calculate this cost by assuming that Steven earned $4.00/hour, working 40 hours/week, for the year prior to going into the ant farm business. Now calculate the *real* total profit.

YEAR-END REPORT: S/M ANT FARM BUSINESS

Expenses		Revenues	Profit
Labor	$106,230.00		
Materials	$ 52,680.00	38,520 ant farms sold	Revenues
Building; Office	$ 25,410.00	@ $6.00 per farm	minus
Equipment; Supplies	$ 18,320.00		Expenses
Advertising	$ 4,140.00		
Miscellaneous	$ 1,860.00		
Salary/gas station	$ (8,320.00)	_____	_____
TOTAL			

Since Steve did not pay himself a salary, he should have included his salary at the gas station as an *implicit cost* of the ant farm business. Costs which are difficult to measure objectively are usually not reported by accountants on financial statements. Therefore, such statements often overstate the real amount of profit earned by a business.

When Steve realizes he can earn $20,000 a year working for another employer, what is his new opportunity cost of doing business? In the next accounting period he should deduct $20,000 from revenues as an implicit cost for his own services to the business. Unless his ant farm business does better next year, it will really earn profits of only $2,480.00. If Steve gets an offer of $25,000.00 working for someone else, what will the profits be for the ant farm business? _____

Should Steve take the job at a salary of $25,000? _____

_____

_____

_____

_____

_____

BUSINESS PERSON OF THE YEAR

Suppose you read the following story in your local newspaper:

LOCAL ENTREPRENEUR WINS AWARD

Steve Mann, the major owner and manager of an ant farm business was recognized at a Chamber of Commerce luncheon yesterday as "outstanding young business-person." Mr. Mann's company reported a profit of 25% of the amount Steven and other owners invested during the company's first year of operation. Mr. Frank Ferguson, president of the local Chamber noted "It is most unusual for a new business to actually earn a profit in its first year."

Do you think that Steve's company will continue to earn profits of this magnitude? Why or why not?

YES!

Reasons why profits will remain high:

_____

_____

NO!

Reasons why profits will decline:

_____

_____

Examine these headlines that you might see during the next few years. What statement is being made or implied about profits in each of these headlines? Can you identify specific reasons that might explain the events reported in each of these headlines?

1. Television Networks Report Profit Declines
2. Motel Industry May Have Peaked
3. Hobby Industries Expanding
4. Banking At Home By Computer Becoming Widespread
5. Birth Rates Remain Low

1. _____
2. _____
3. _____
4. _____
5. _____

ECONOMIES OF SCALE

When Juan Perez wanted to buy 3000 ant farms to be delivered in 3 weeks, Steve could do it only if he raised the price of his ant farms from $6 to $9. But, what if Steve (and Lenny) had *more time* to adjust to a higher level of output?

Production requires a combination of *fixed* resources (which cannot be increased or decreased in a very short period of time) and variable resources. At any given time, fixed resources are things such as factories and machines while variable resources include such factors as workers and raw materials.

What if, instead of having to pay overtime wages and putting a strain on their existing equipment, Steve and Lenny had enough time to enlarge their factory and purchase additional machinery? They might find that their costs per ant farm would be *lower*. This is because of *economies of scale*.

For *some* products, large scale production makes possible various kinds of efficiencies in production, such as factories and assembly lines. But it takes *time* to adjust to the most efficient production level *and* business firms have to be able to *sell* the additional products produced. It would not have helped Steve to double his capacity to 2000 ant farms per week if he can sell only 1000.

While there are some definite advantages of large scale production, there are also some cases in which a smaller scale of production might be preferable.

Consider the following list of goods and services, and list what you think are the most important advantages of producing these goods and services in large-scale and small-scale production processes.

	Advantages of Large-Scale Production	Advantages of Small-Scale Production
passenger automobiles		
hamburgers		
haircuts		
racing cars		
movie theaters		
posters		
grocery stores		
brain surgery		

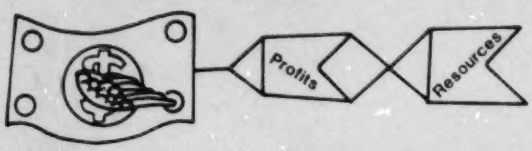
WHO IS MY COMPETITOR?

In the film "Supply" Steve said that he had a lot of competition, even though there were only seven other ant farm producers. In fact, Steve faces competition from the other ant farm industries and from a number of leisure time industries. Consumers can spend their dollars on a variety of alternative hobbies—gardening, going to movies, building model airplanes, or maintaining an ant farm, for example. They might even choose to spend no money for leisure time activities. It would be impossible to identify all of Steve's competitors because there are so many rivals for scarce consumer dollars, and individual consumers may see very different products competing with the ant farm.

Consider the following situation and identify the primary economic competitors for consumers' transportation dollars:

WHO ARE THE COMPETITORS OF GENERAL MOTORS?

1. U.S. auto producers: _____
2. Foreign auto producers: _____
3. Alternative forms of transportation: _____
4. Alternatives to spending dollars for any form of transporation: _____
5. Is the auto industry in the United States a monopoly? Explain: _____



THE ROLE OF PROFITS

When Steve is told "There go your profits" at his stockholders' meeting, he and most of his stockholders were confused. Well, sometimes profits can be rather confusing. But that scene makes a very important point—that when we consider how much profit a firm is making, we have to be sure that we take into consideration the income that *could have been* earned with the resouces used.

One way to look at this and get a good understanding of the important role profits play in the American economy is to recognize that there are two kinds of profit.

One kind can be called "normal" profit and actually should be considered as a part of the cost of a business. Normal profit is the minimum return that entrepreneurs must receive to be willing to continue to operate a particular business. It is approximately equal to what could be earned in other lines of activity that are about as risky.

Profits greater than normal profits are called "excess" profits. If profits are greater than normal in some industry, this is a signal to businesses to expand production in that area. If profits in an industry are *below* the level of normal profits, entrepreneurs will shift resources from this industry to greater profit-making opportunities. Therefore, competition will, over a period of time, leave profits at about the same level in all industries. Of course, it is necessary to observe profit levels over a period of several years to see this resource-shifting function of profits; and riskier industries will usually average slightly higher returns to make up for years when low profits, or even losses, are experienced.

It is impossible to identify the precise level of normal profits, but a good approximation can be obtained by considering the rate of return on virtually risk-free savings accounts. If investors can receive 8-12% interest with no risk, then it is reasonable to assume that "normal profit" should be at least one or two points above this. Another estimate can be made by looking at the average rate of profit for most American firms. The following table shows that this average for America's largest firms was 14.4% in 1980 and 13.8% in 1981.

Average Rate of Profit for Large Firms
(Return on Stockholders' Equity)

	1980	1981
500 largest manufacturing firms	14.4 %	13.8 %
Tobacco Industry	19.8	19.5
Petroleum Refining	19.4	16.4
Aerospace	16.2	15.0
Office Equipment	15.1	13.3
Musical Instruments, Toys, Sporting Goods	12.6	9.2
Rubber and Plastic Products	5.0	10.4
Motor Vehicles	8.1	7.6
Rates on "risk-free" 90-day Treasury Bills	11.43	14.03

The table also shows rates of profits for several industries for these two years. Consider these rates of return and see if you know of any specific reasons for the rates indicated.

For example, oil refining profits rose during the Arab oil embargoes of 1978 and the Iranian Crisis of 1979, but fell again in 1981. Why? _____

_____

_____

Why do you think overall levels of business profits fell from 1980 to 1981? _____

_____

_____

Why do you think the tobacco industry profit rate did not fall as much as most other industries in 1981? _____

_____

_____

_____

How do investors respond to changing profit rates in different industries? _____

_____

_____

MEASURING PROFITS

The American economy is sometimes called the "profit system," because profits are so important in directing scarce resources. When more people want a product, rising prices and profits send out strong signals to businesses to produce more of their product and relatively fewer units of other products. Each year many corporations report their annual profits and profit rates in publications such as *Fortune* and *Business Week*.

There are two commonly used methods for computing profit rates. One method is to compute profits as a percent of sales.

Method #1

$$\text{Profit Rate} = \frac{\$ \text{ of Profits}}{\$ \text{ of Sales}}$$

Compute the profit rate for Steve's Ant Farm using this method.
Sales in dollars $312,000.
Profits in dollars $20,000.
What is the profit rate using the profits as a percentage of sales method? _____

Another method for computing profit rates is to calculate profits as a percent of investment.

Method #2

$$\text{Profit Rate} = \frac{\$ \text{ of profit}}{\$ \text{ of investment}}$$

Compute the profit rate for Steve's Ant Farm using the method above.
Investment in dollars $100,000.
Profits in dollars $20,000.
What is the profit rate using profits as a percent of investment method? ___

1) While both of these numbers measure profits in some sense, are they different in any important ways? (Hint: What would cause the two measures to rise or fall? Could some things change one measure but not the other?) _____

2) If you were a business leader, why might you choose to use the first method as a way of reporting profit rates to the public? _____

3) Economists use method #2 when reporting profit rates. Why do you think they prefer this method? _____

If Steve's Ant Farm were listed on the major stock exchanges, it would probably be included among the Leisure Time industries. This category includes such firms as AMF, Disney Productions, and Polaroid.

Listed below are the recent annual profit rates for several Leisure Time Industries. These rates were computed by using the profits as a percent of investment method.

Huffy	15.0%
Ideal Toy	27.0%
Mattel	11.5%
Milton Bradley	19.5%

How does the profit rate for Steve's Ant Farm compare to each of these four firms?

Huffy _____
Ideal Toy _____
Mattel _____
Milton Bradley _____

The average profit rate for all Leisure Time Industries was 16.4%. How does the profit rate for Steve's Ant Farm compare with the average rate for Leisure Time Industries?

_____

What factors might explain the profit rate for Steve's ant farm?

1. _____
2. _____
3. _____

What might other Leisure Time Industries do as a result of the profit rate for Steve's Ant Farm? _____

_____

What impact could the actions of other Leisure Time Industries have on the profit rate for Steve's Ant Farm? _____

_____

_____

PEA VINE CORNER vs. PIGGLY WIGGLY

Prices react to the pressure of costs and competition. Sometimes it is difficult to recognize different types of competition. Direct competition on the basis of lower prices is easy to spot. Other forms of competition are sometimes harder to recognize. Consider the following example.

In Ms. Peach's social studies class in a suburban Atlanta public school, the subject of grocery prices was being discussed. A new student, Dalton Calhoun, mentioned he had noticed that the spacious new Piggly-Wiggly supermarket, where his mother now shopped, seemed to have lower prices than Mr. Midas' store, the only grocery back in Pea Vine Corners where Dalton used to live. Dalton exclaimed, "It just isn't fair! Mr. Midas is charging those high prices to the people of Pea Vine Corners just because he doesn't have any competition."

Hearing this Ms. Peach assigned Dalton the project of conducting a price survey at Mr. Midas' store during his spring break visit to Pea Vine Corners. Ms. Peach also prepared a similar survey for Scarlet Butler, Dalton's girlfriend, to be taken at the Piggly-Wiggly. The results of the two surveys are shown below.

		PEA VINE CORNERS	PIGGLY-WIGGLY
1.	Milk, 2%, gal.	$1.89	$1.89
2.	"Captain Munch" cereal, 24 oz.	1.79	1.49
3.	Ground chuck, 1 lb.	1.99	1.99
4.	"Splash" laundry powder, 48 oz.	2.39	2.19
5.	"Dough-Boy" yellow cake mix	1.19	.99
6.	Peaches, fresh, 1 lb.	.69	.79
7.	Eggs, medium, 1 doz.	.79	.89
8.	"Major Mills" flour, 5 lb.	1.09	.89
9.	"Magenta Midget" canned green beans, 12 oz.	.69	.49
10.	"Swifty Franks," all beef, 1 lb.	2.09	1.89
11.	Distance to next grocery?	20 mi.	2 blocks
12.	Average distance from supplier's warehouse to the stores?	30 mi.	3 mi.
13.	Indirect competition?	Farmers/Gardens	Gardens (a few)
14.	Average time of non-perishable goods on shelves?	3 mo.	7 days

QUESTIONS:

1) What was the total cost of shopping for groceries at the two stores? _____

_____

2) Was Piggly-Wiggly lower on the price of all items? ___

3) On what kinds of items did Mr. Midas' store offer lower or equal prices? _____

4) Why do you think Mr. Midas' store was lower on those particular items? _____

_____

_____

5) What cost advantages did Piggly-Wiggly have over Mr. Midas' store? _____

_____

6) What prevents Mr. Midas from charging higher prices than he is currently charging? _____

_____

_____

7) Did Mr. Midas face any costs that were higher than those of the Piggly-Wiggly? _____

_____

8) Was Dalton correct in accusing Mr. Midas of charging the people of Pea Vine Corners prices that were "unfairly" high?

_____

_____

_____

RISK: NOTHING VENTURED NOTHING GAINED

Economic decisions involve risks. Decision makers often take risks intentionally because they expect to benefit as a result of their decisions. Examine each of the following situations and indicate the nature of risk involved as well as the expected gain.

Situation	Nature of Risk	Expected Gain
1. Bob's Plumbing Supply Company pays for the training of an office employee on word processing equipment.		
2. Software, Inc. advances $50,000 for the development of a new video game.		
3. Sue decides to attend college rather than learn to drive a truck at a trade school.		
4. Auto manufacturers reintroduce the convertible.		
5. MacDonalds increases the price of its hamburgers.		
6. To maintain the price of its candy bar, Sweets, Inc. reduced the size of the bar by ½ oz.		
7. To maintain the price of its shoes, Leather Shoes, Inc. uses more man-made materials in its shoes.		
8. Student violates closed noon hour to purchase lunch off-campus.		
9. Bill purchases a microcomputer from a mail order firm rather than a local business firm.		
10. A soft drink company decides to implement a no-caffeine advertising campaign.		
11. The "Flying Linguinis" trapeze act attempt a quadruple flip each night in their circus act.		

QUESTIONS:

1. Why do decision makers incur risks? Do you know some people who seem willing to take more risks than others? _____

2. **Select one of the eleven situations above and describe some conditions in which you would *not* take the action indicated in the situation. Select another situation and describe conditions in which you *would* accept the risk.** _____

WALK-WOMAN

In a market economy, prices are set by the interaction of supply and demand. As supply changes relative to demand, the relative scarcity of an item changes and prices increase or decrease. The following exercise shows how prices may change in a market economy.

• • • • • • • • • • • • •

Chapter I: The Big Discovery

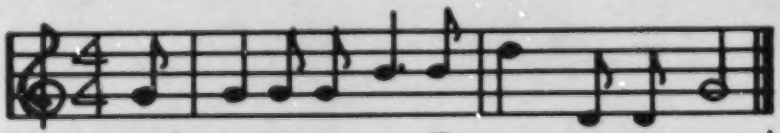
Once upon a time in 1980, a woman named Namo W. Klaw was mowing her large lawn. She listened to the mower engine a while, counted the number of passing cars with no mufflers for a few minutes, dreamed of a cold drink, and then mowed for another hour with nothing to do but think. "What if," she thought while she sweat, "I could strap my tape deck on this stupid lawn mower; then I could listen to music *and* mow!" She mowed around two trees. "What if I could strap my tape deck to me; then I could listen and mow easier."

She stopped—right by the petunias . . . "What if," she turned off the mower, "I invented a tape player small and light enough to wear so that I could listen to music but have my hands free to guide this dumb mower!" The mover rolled right into the petunias, and Namo headed for her workshop. Two weeks and one hundred discarded ideas later, she emerged with Walk-Woman (her name spelled backwards). One month later, she had produced and sold 100 Walk-Womans for $100 each. A special patent made her the only producer of the Walk-Woman. The neighborhood yards had never looked better.

Chapter II: The Attack of the Supply & Demand *What-Ifs*

How and why will the price of Walk-Womans be affected by the following changes in supply and demand?

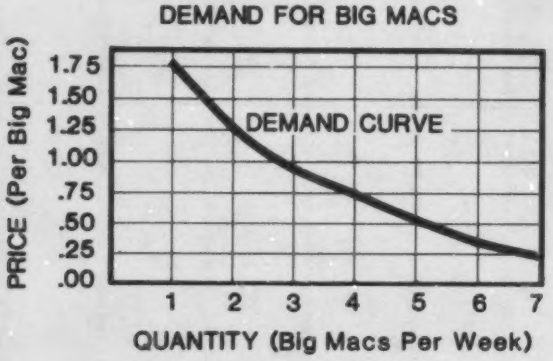
What If? . . .	Result
1. . . . Namo learns that all the people on the other side of town are willing to pay more for Walk-Womans?	
2. . . . other producers decide to compete with new products very similar to the Walk Woman?	
3. . . . people all over the world demand such a product?	
4. . . . people become deaf as a result of listening to head sets?	
5. . . . listening to music through head sets helps people lose weight?	
6. . . . joggers get killed because they can't hear cars because they are listening to music?	
7. . . . someone invented an inexpensive elastic sweatband that would produce the same quality music?	



SUPPLY AND DEMAND—GRAPHING AND CHARTING PRACTICE

Economists often use graphs to clarify their ideas, and the demand for different goods is often graphed.

1. The following graph shows a hypothetical demand curve for Big Macs. When graphing demand, put price along the vertical axis and quantity along the horizontal axis. Examine the graph, then answer the questions which follow.



a. If the price of Big Macs were $1.25, how many would this person buy per week? ___

b. What is the quantity of Big Macs demanded at a price of $ .25? ___

c. What is the quantity demanded at a price of $1.75? ___

d. Underline the correct word:
   (1) Demand curves slope (up/down).
   (2) The graph shows that as price increases, the quantity demanded (increases/decreases).
   (3) In the graph, as the price decreases, the quantity demanded (increases/decreases).

2. Market Survey

a. What is your favorite soft drink? _____

b. How much money do you usually spend for this drink? _____

c. How many cans or bottles of this drink do you buy each week? _____

d. Suppose that, given the various ingredients used in making soft drinks, the cost of the sugar ingredient doubled because of crop losses. How would this affect the price of soft drinks? _____

_____

e. How would you react to this? _____

f. List a set of 4 prices which shows increases in the price of your favorite soft drink. Start with the price as it is now and end with a doubling of that price. On a separate piece of paper draw a graph and show your reactions to various increases in price, in terms of your own purchases. Follow the directions given in #1: put price along the vertical axis and quantity along the horizontal axis. The title for your graph could be "My Demand for (favorite soft drink)."

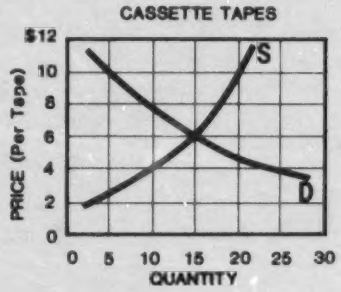
3. Sugar is used in many products other than soft drinks. Study the chart below. Complete the chart to indicate changes you think would occur in response to increased prices for sugar in the markets as indicated. Use an upward-pointing arrow (↑) to indicate an increase in the column, and a downward-pointing arrow (↓) to indicate a decrease in a column. Write NC if no change is expected. In the last column, titled "Summary of Changes," state briefly what changes took place, and what would happen to the market clearing price and quantity of products sold in these markets. The first example is completed for you.

	CHANGES			
MARKET	PRICES, WAGES, ETC.	DEMAND	SUPPLY	SUMMARY OF CHANGES
ICE CREAM	(↑)	No change but quantity demanded will ↓ at higher price.	(↓)	Price increased; fewer products made and sold.
WORKERS AT ICE CREAM FACTORY				
CHOCOLATE CHIP COOKIES				
SALESMEN FOR COOKIE FACTORY				
FRUIT JUICE PRODUCTS (Soft Drink Substitute)				
FRUIT GROWERS				

PICTURE THIS

Graphs can be used to show a market clearing price (MCP) and the effects of changes in demand and supply.

The graph below shows the supply and demand for cassette tapes. Examine the graph and answer the questions which follow:



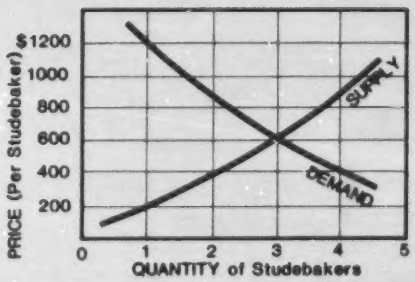
1. Fill in the word "supply" or "demand."
   a. The _____ curve shows how much consumers are willing and able to buy at different prices.
   b. The _____ curve shows how much producers are willing and able to sell at different prices.
2. At a price of $4.00,
   a. how many tapes will consumers buy? ___
   b. how many tapes would producers like to sell? ___
   c. Therefore, at a price of $4.00, is there a shortage or a surplus? _____
3. At a price of $10.00,
   a. how many tapes will consumers buy? ___
   b. how many tapes would producers like to sell? ___
   c. Therefore, at a price of $6.00, is there either a shortage or a surplus? _____
4. At a price of $6.00,
   a. how many tapes will consumers buy? ___
   b. how many tapes would producers like to sell? ___
   c. Therefore, at a price of $6.00, is there either a shortage or a surplus? _____
5. What does market clearing price mean? _____

   What price is the market clearing price in this example? _____
6. Underline the correct word in parentheses.
   a. At the prices of $2.00 or $4.00—below the market clearing price, a (shortage/surplus) exists because people want to buy (more/less) than is available.
   b. At prices of $8.00, $10.00 or $12.00—above market clearing price, a (shortage/surplus) exists because people want to buy (more/less) than is available.

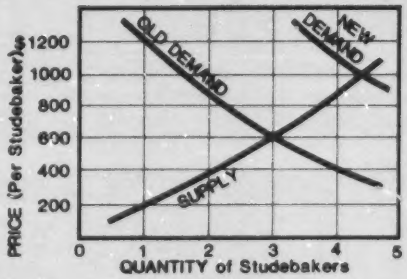
CHANGES IN DEMAND: The film, Market Clearing Price, described situations where demand changed due to changes in people's tastes, incomes, and substitute products. This can be shown by shifting the demand curves.

Graph A shows the supply and demand for Studebakers before they were considered very desirable to people like Lance. Graph B shows the change in demand caused by the change in people's tastes. People decided that they wanted to own old Studebakers, causing demand to increase.

GRAPH A



GRAPH B



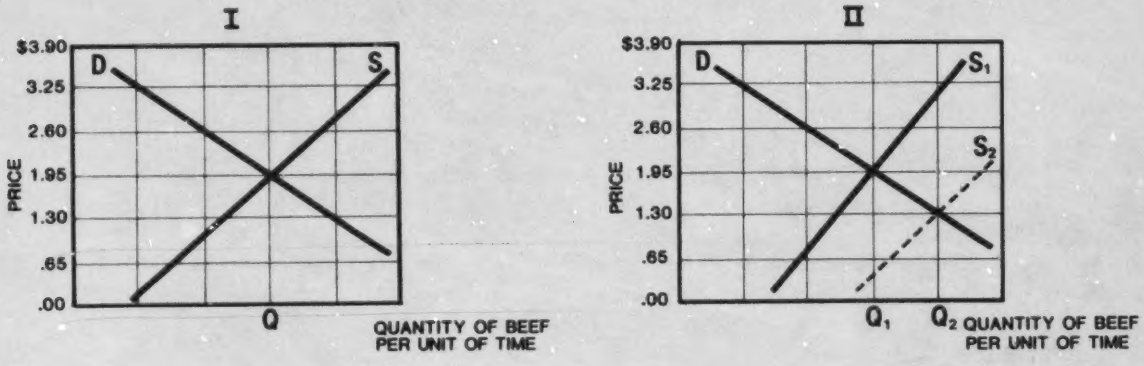
1. What is the market clearing price in Graph A? _____
2. What is the market clearing price after the increase in demand? _____
3. How did the increase in demand affect the quantity of Studebakers which sellers would like to supply? _____

_____

_____

CHANGES IN SUPPLY: Sam Craggy, a rancher who sells cattle to Julia, discovers a new method to get more useable meat from each cow he grows. Since the process is more efficient, costs decline.

Graph I shows the supply (S) and demand (D) for beef before the introduction of the new process. Graph II shows the change in supply caused by the use of the improved process.



1. What is the MCP in Graph I? _____

_____

2. What is the MCP after the increase in supply? _____

_____

_____

_____

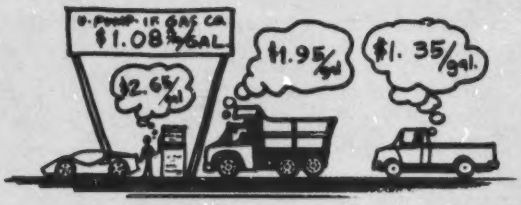
3. As the price falls consumers use more beef. Why? _____

_____

_____

_____

You Must Be Kidding! What Does It Really Cost?



In a market economy, price is a major allocative mechanism. That is, the price of a good is the major determinant of the quantity demanded and supplied of a good. Consumers don't like prices to be high and producers don't like prices to be too low. As a result, these groups often exert powerful pressures upon government to regulate prices. Farmers, for example, have lobbied their legislators to maintain prices for farm products at higher levels than would be set in the marketplace. The film *DEMAND* illustrates another case where, following a change in the supply of gas, political pressure led government to put a ceiling on the price of gasoline lower than the price that would have been set in the marketplace. But will that become the new, *real* cost of gasoline to consumers? This exercise will help you determine the real cost of gas to the people waiting in line at Mr. Mann's station.

At Lester Mann's station, the price of gas has risen to the legal ceiling price of $1 per gallon; but, at this price, the quantity of gas demanded exceed the quantity of gas available. Gas is in limited supply, and as a result people lining up to buy gas experience an average wait-time of one hour. To help ease the pressure, Mr. Mann has decided he will sell only ten gallons of gas to each customer—no more, no less. Because people's time is valuable, the actual price of the gas should reflect the cost of the wait-time as well as the money they pay for the gas. Using a person's wage as a simplified measure of the value of his or her time, compute the *real* cost of gas for each of the following persons:

Person	Price of Gas	+	Approx. Hrly. Wage	=	Total Cost	Real Cost per gallon	=	Total Cost / 10
Mr. Kodner	10.00		Retired*		_____	_____		
George Donaldson	10.00		10.00		_____	_____		
Dr. Washington	10.00		30.00		_____	_____		
Lance O'Shaughnessy	10.00		3.00		_____	_____		
Sissy	10.00		5.00		_____	_____		
Mr. Jamison	10.00		20.00		_____	_____		
Mrs. Jamison	10.00		12.00		_____	_____		
Julia Perez	10.00		9.00		_____	_____		

*Undoubtedly, Mr. Kodner's time has value, but this is a simplified model so we assume it is 0.

Questions:

1) What two individuals benefit most as a result of their ceiling price? _____ and _____. Why? _____

2) What two individuals are actually paying the highest price for gas? _____ and _____ Why? _____

3) If another station in town is selling gas illegally for $1.90 per gallon and there are no lines, who probably will go there to buy gas rather than waiting in line at Les Mann's station? _____, _____, _____, _____.

4) Can you think of any reason why a person might not go to the illegal station, even if he or she believed he might save money by going there? _____

5) Give one reason to support the claim that Les Mann's ten gallon rule is fair. _____ Is Unfair? _____

6) Can you think of several ways we could decide who would get goods which are in short supply? _____

7) Suppose the government had not intervened and the gas prices had risen in the marketplace to $2 per gallon, who would be paying more with the marketplace than with the ceiling price? _____

8) How might people adjust their purchases of gas if they thought the price of gas would rise to the $2 per gallon level and stay there for a long period of time? _____

Extension Activity: First read the list (below) of ways many people use gasoline.

Can you add more ways you or your family use gasoline? *Check* all which you and your family use; *circle* the three which you think your parents would be willing to give up if such a price increase occurred.

_____ **Driving to work**
_____ **Driving to shopping mall**
_____ **Driving to grocery daily**
_____ **Driving to grocery weekly**
_____ **Driving to school**
_____ **Driving to cottage, park, or shore**
_____ **Driving a motor boat**
_____ **Delivering hot meals to elderly**
_____ **Driving to church**
_____ **Visiting relatives**
_____ **Riding a moped or motorcycle**
_____ **Pulling mobile camping trailer**
_____ **Driving to golf, tennis, or club**
_____ **Cruising**

_____

_____

_____

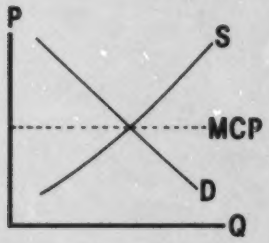
Are your choices the same as the ones you think your parents would make? _____ **Why?** _____

_____

_____

FINDING REAL MARKET PRICES

When we use graphs to determine market clearing prices, it seems like a simple thing to do. We know that the market clearing price is the price where the amount supplied is equal to the amount demanded, and looks like this:



This is easy to do. But what happens in the real world when we survey prices? The market clearing price is not so easy to find! Many prices for identical goods are found. This exercise will show the range of prices in a market, and will help you explain the reasons for these differences.

A recent survey of local businesses shows the following prices for a 2-liter bottle of a nationally advertised cola:

Small 24-hour convenience store	$1.79
Large grocery store	$1.39
Warehouse "no-frills" grocery store	1.19
Gas station/convenience store	2.19
Discount department store	$1.39

Can you tell what the market clearing price is? _____

_____

_____

What other information do you need to determine whether these are market clearing prices for the different stores? _____

_____

_____

_____

_____

After surveying these local businesses, we find that none has a surplus or shortage of the cola. What explanations can you offer for the differences in price? (Hint: Think about why people might be willing to pay a higher price at different stores.)

1. _____
2. _____
3. _____

Take a market survey of your own. Choose three grocery stores and check the prices of five identical products. If you use advertisements in the newspaper you won't even have to go to the store! Record the prices for those items in the chart below.

	ITEM	STORE #1 PRICE	STORE #2 PRICE	STORE #3 PRICE
1.				
2.				
3.				
4.				
5.				

Is there any store which is much cheaper or more expensive than the others for all items? _____

Are there any specific items that have a big difference in price from store to store? _____

_____

Explain any differences that you found, using your knowledge of the determinants of supply and demand. _____

_____

_____

_____

_____

_____

What kinds of benefits do you receive from checking prices? _____

_____

What kinds of costs do you incur from checking prices? _____

_____

_____

Would this be a worthwhile activity for you to use as a consumer? Why or why not? _____

_____

_____

As you can see from this exercise, there is sometimes a wide variety of prices for any good in a market. These price differences make sense for many reasons, such as the level of competition in an area, the convenience of shopping in one store, time spent waiting in line, etc. By shopping around and comparing prices, we may find ways to save money, but even the shopping around has a cost. Everyone must make decisions on what and where to buy under conditions of some uncertainty and incomplete information. That's because information and certainty are scarce goods too, just like the other things we buy.

When the Price Isn't Right

A Tale with Two Tails (Endings)

Julia Perez just knew that her customers couldn't pass up beautiful fresh strawberries, even though they came to her market expecting to buy only meat. Besides, she was sure that the $.99 per quart price was a good price. At that price, she felt that she would make a profit on the strawberries and still offer a good value to her customers so that the one hundred quarts of strawberries she had bought could be sold in a single day.

Ending A

The price must have been good because all the strawberries were sold by 1:00 PM; and at least twenty-five customers, hearing about the strawberries from friends, were disappointed to find out that all the strawberries had been sold.

Questions:

1) Had Julia set her price at the market clearing price? Explain. _____

2) Suppose Julia had set the price at $1.19 per quart and had still sold all the berries. Would $1.19 be a fair price, even though Julia had been willing to sell them for $.99? _____

3) Who benefited and who paid the cost of Julia's lack of knowledge about the market clearing price for strawberries? _____

Ending B

At 3:00 PM, Julia knew something was wrong. She still had almost fifty quarts of berries, and most of her regular customers had already completed their shopping. She was now worried that she would lose money unless she sold at least thirty more quarts of berries.

Questions:

1) Had Julia set her price for berries at the market clearing price? _____

2) What would you recommend that Julia do at 3 PM? _____

3) If Julia reduces the price on berries at 3 PM, is she being unfair to buyers who paid the higher price earlier in the day? _____

4) Suppose Julia had paid $.75 per quart for the berries. Should she ever mark the selling price lower than $.75? ____

5) Perishable, seasonal and durable goods all have a definable market time frame. How do we know that sellers of seasonal (for example, swimwear) and durable (e.g., cars and appliances) products sometimes experience difficulty in finding the market clearing price? _____

SCARCE YES SHORTAGE NO

Market clearing prices (MCP) are vitally important in the economy. They serve to balance the amount of any product demanded by consumers to the amount supplied by sellers. A shortage can be eliminated by raising prices. The following stories illustrate the role of market prices, and clarify the distinction between scarcity and shortage.

Last year Tronics was the only electronic games business within walking distance of Joe's high school. Everytime Joe went to play games he found large crowds and waited a long time before he could play the games.

1. Was the price charged per play the Market Clearing Price (MCP)? How do you know?_____

2. Could the waiting in line to play the games be eliminated? _____

Recently a new video arcade, Station Break, opened for business one block away from Tronics. Now, when Joe wants to play TRON he does not have to wait.

3. Why did the new electronic games store open?_____

4. Will the new store affect the price per play?_____

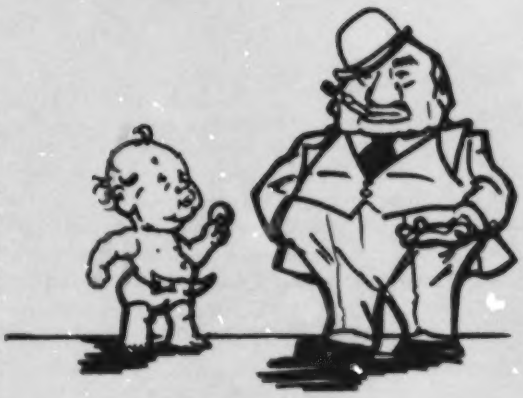
At a recent PTO meeting parents and teachers agreed that electronic game stores should be banned from locations within three blocks of Joe's school. After much debate, the city council adopted the ban, which forced Station Break to close.

5. Do Joe and his friends wait longer to play electronic games? _____

6. Joe comments to his friend, "Soon the price of playing games will go up." Will he be right? _____

7. In which of the situation above (question 1-6), were video games scarce? Explain: _____

JUST ONE MORE PENNY



Prices on some products are "adjusted" with taxes or other government policies. For example, the following discussion was recently heard in the Capitol:

Senator Hogg: "We simply must have more tax revenues to finance our highway and hospital building programs and I know a very easy way to do it. We will just levy a 1¢ tax on every quarter or token put in video games. The owners of these games won't mind that at all because they will figure out some way to charge the people who play the games the extra penny."

Videoarcade Operator: "Hey, wait a minute! You are talking about a 5-10% tax on the service we are providing—that is a huge tax!"

Senator Hogg: "Aw, that's such a small amount. Nobody will mind paying jes' one l'il ole penny."

Suppose that the Senator's proposal is adopted. What specific effects would you expect to see in the videoarcade industry as a result of the tax? _____

_____

_____

_____

_____

_____

_____

_____

Suppose that it is necessary to raise a substantial amount of additional tax revenues throughout the nation to support highway and hospital construction. What do you see as the major advantages and disadvantages of each of the following alternatives:

	Advantages	Disadvantages
Collect a fixed amount from each person	_____	_____
	_____	_____
	_____	_____
Increase personal income taxes more for high income families, & a little more for middle income families	_____	_____
	_____	_____
	_____	_____
Increase excise tax on gasoline	_____	_____
	_____	_____
Increase excise tax on liquor and cigarettes	_____	_____
	_____	_____

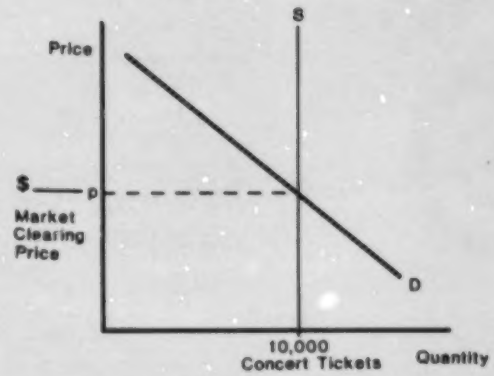
THANKS A LOT ROLLING STONES

The Rolling Stones are going to make one *last* concert tour of the U.S. The group is going to present only one concert in each of these cities: New York, Chicago, Los Angeles, and the town in which you live (or the large city nearest you if you live in a rural area). The concert will be held in an auditorium that can seat only 10,000 persons.

You are in charge of selling the tickets for this concert. (Don't worry about "good" seats and "bad" seats—your job is to sell 10,000 tickets at one price.)

At what price do you think you could sell these tickets so that there would not be a shortage or a surplus of tickets? In other words, what price do you think would balance the supply of tickets with the demand for the tickets.

In selecting what you think would be the market clearing price, you should consider how much people are now paying for concert tickets, whether people would be willing to travel great distances to see the final concert, how much the used ticket stubs would be worth, and any other factors you think important.



But wait! Just before you start making arrangements to sell the tickets, you receive the following telegram from Mick Jagger:

WE WANT TO MAKE THIS CONCERT A SPECIAL THANK YOU TO OUR LOYAL FANS STOP FOR THIS CONCERT ONLY WE INSIST THAT NO TICKET BE SOLD FOR MORE THAN FIVE DOLLARS STOP WE WILL FOREGO OUR USUAL FEE AND WE WILL PAY ALL CONCERT EXPENSES THAT EXCEED FIVE DOLLARS PER TICKET STOP

How would you describe the problem of selling the tickets under these circumstances?

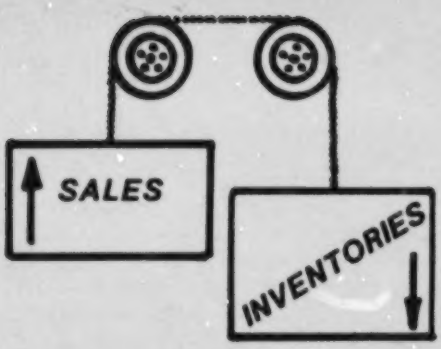
What problems do you think you might encounter if you were to sell the tickets on a "first come, first served" basis?

What alternative methods might be used to sell the tickets?

What do you think would be the "fairest" way to sell the tickets under the conditions imposed by the group? Explain.

Will tickets be resold by those who receive them? If so, what do you think the *real* cost of a ticket will be?

UPS AND DOWNS



As the film Market Clearing Price illustrates, businesses maintain inventories. Inventories act as a buffer to cushion the ups and downs of daily sales. Use the following survey form to discover other functions of inventories and the costs involved in maintaining inventories. Collect information from firms in two of the following categories: 1) fast food restaurat; 2) supermarket; 3) public utility; 4) manufacturing firm.

INVENTORY SURVEY FORM

Name of firm: _____
Person interviewed: _____
Date: _____

Your answers to the following questions will help me better understand the functions of inventories.

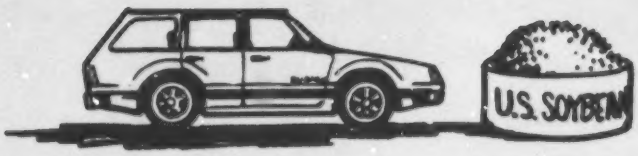
1. What goods does your firm keep in inventory?
   Five most important items:
   1) _____
   2) _____
   3) _____
   4) _____
   5) _____
2. Why do you maintain an inventory of these items? _____
   _____
   _____
   _____
3. Do changes in the interest rate alter your inventory practices? Please explain.
   _____
   _____
   _____
4. How do you minimize the cost of carrying the inventory? _____
   _____
   _____
   _____
5. Has any product shown considerable sales fluctuations in recent weeks? Why?

Product Name	Explanation
1) _____	
2) _____	
3) _____	
4) _____	
5) _____	

6. Are those changes related more to determinants of supply or demand? Please explain.
   _____
   _____
   _____
7. How did your firm respond to those changes? Why?

Product Name	Response to Change
1) _____	
2) _____	
3) _____	
4) _____	
5) _____	

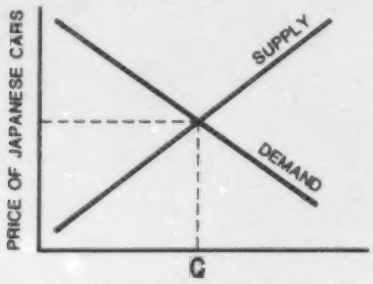
SUBARUS OR SOYBEANS?



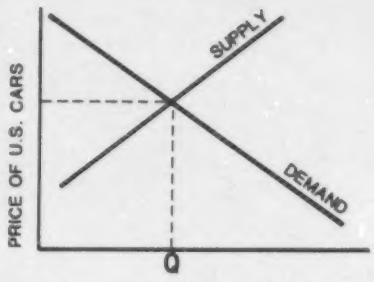
Japan recently agreed to cut its exports of new cars to the United States. Fewer imported cars means fewer U.S. dollars flowing from the U.S. to Japan. But that means there will be fewer dollars for the Japanese to spend on American products, particularly agricultural output such as corn, beef and soybeans.

The most likely result of the restrictions on importing Japanese cars to the U.S. will be a switch by consumers to a close, but more expensive substitute, American cars.

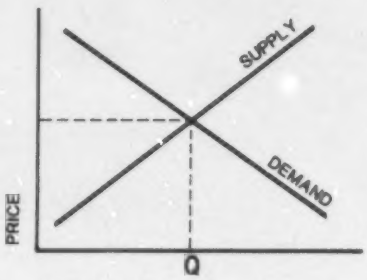
Show the direction of the expected shifts on the graphs below:



U.S. MARKET FOR JAPANESE CARS



U.S. MARKET FOR U.S. CARS



MARKET FOR U.S. EXPORTS

Circle the correct answers to complete the following statements:

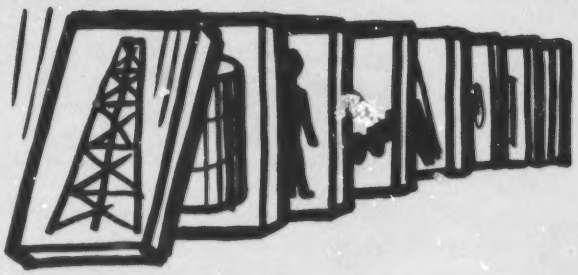
1. The "voluntary" restrictions on car exports to the U.S. by Japan will result in a (higher / lower) market clearing price (MCP) for Japanese cars in the U.S. due to the (decrease / increase) in supply.
2. The effect on the market for U.S. cars will be to (raise / lower) the market clearing price (MCP) because of the (increased / decreased) demand for U.S. cars, due to the (increase / decrease) in the availability of a substitute product.
3. As Japanese consumers cut back on their purchases of U.S. exports, since they have fewer U.S. dollars to spend, the result will be a (higher / lower) market clearing price (MCP) for U.S. exports, due to the (increase / decrease) in demand.
4. Who do you think will gain from the trade restrictions? Who will lose? For each of the following groups of people, fill in the blanks with either a W (winner) or an L (loser):

   U.S. auto firms _____
   U.S. auto workers _____
   U.S. auto consumers _____
   Japanese auto producers _____
   U.S. consumers of agricultural goods _____
   Japanese consumers of U.S. food exports _____
   U.S. farmers _____

5. Do *you* think that we should restrict auto imports? Should we restrict soybean exports from the U.S.? Is it possible that your opinion is affected by the way in which such restrictions would affect you personally? Would an auto worker's response differ from that of a farmer raising soybeans?

6. If U.S. consumers pay higher prices for cars, they will have (more / less) money to spend on all other products. Most products U.S. consumers buy are made in the U.S. How will spending more on cars affect demand for these other products made in the U.S.? (Increase it / Decrease it.) If fewer argicultural and other U.S. products are demanded, what will happen to the number of workers employed in those industries? (Increase / Decrease.) Does this support or weaken your answer to question #5, above? Explain.

WHEN ONE DOMINO FALLS . . . . .



There have recently been substantial increases in the salaries of petroleum engineers (to average starting salaries of over $30,000 per year for college graduates in this field in 1982). Examine the following list of possible effects that might be caused by higher salaries for petroleum engineers. Write *True* by those things you think *would* happen *as a result of* this increase and write *False* by those things you think *would not* happen. Explain your answer in the space provided.

_____ Higher prices for gasoline. _____

_____ Fewer students majoring in petroleum engineering. _____

_____ Decreased supply of professors of petroleum engineering. _____

_____ Increased demand for housing in Houston, Texas. _____

Suppose that, because of a reduced supply of carpenters, there is a sudden and substantial increase in their wage rates throughout the United States. Make a list of changes in wages and other prices you think will happen as a result of this increase. You must create your own list—but the above list of possible effects of higher salaries for petroleum engineers may help you think of inter-relationships between the wages of carpenters and the supply and demand for other goods and services.

HOW MANY WORKERS SHOULD BE HIRED?

You are the President of Acme Yo-Yo Company, a small manufacturing firm that produces "Supersonic Yo-Yos"—a popular toy that makes a "supersonic" noise when used.

Acme's yo-yos are manufactured by yo-yo makers working at two yo-yo making machines. You have been estimating how many yo-yos your company can make using different numbers of workers, and you now have to decide just how many workers Acme will hire.

Your study of your yo-yo making process has shown that you can produce the following number of yo-yos per day depending upon how many workers you hire.

No. of Workers Hired	No. of Yo-yos produced each work day	Change in # of yo-yos produced
1	20	20
2	50	30
3	70	20
4	85	15
5	95	10
6	100	5

After the second worker is hired, hiring more workers still increases the number of yo-yos produced, but the extra number of yo-yos produces gets smaller and smaller as more workers are hired. Why do you think this is true? _____

_____

_____

_____

_____

You have also learned that the market for Acme's yo-yos is such that Acme can sell as many yo-yos as it wants each day for $2 each, and that you can hire as many qualified yo-yo makers as you need by paying each one $25 per day.

The following Table can help you decide how many workers to hire. First, you need to calculate how much revenue Acme will take in at each possible level of output. Then you will have to calculate how much *additional* revenue is earned by hiring one more worker. You can do this by comparing total revenue at one level of output with total revenue at the *next lowest* level of output. Finally, you can compare the *additional* revenue from hiring each worker (this is called the marginal revenue product of labor) with the *cost* of hiring the additional worker (which in this case is always $25 per day).

1 Number of Workers Hired	2 Level of Output (Number of yo-yos produced per day)	3 Extra Output (from hiring one more worker)	4 Price at which yo-yos can be sold	5 Total Revenue (PxQ, or col. 4 x col. 2)	6 Marginal Revenue Product (the change in total revenue from previous level, or col. 3 x col. 4)
0	0	0	$2	$0	— — —
1	20	20	$2	(20x2) = $40	$40
2	50	_____	$2	_____	_____
3	70	_____	$2	_____	_____
4	85	_____	$2	_____	_____
5	95	_____	$2	_____	_____
6	100	_____	$2	_____	_____

How many workers should Acme hire? Why? _____

_____

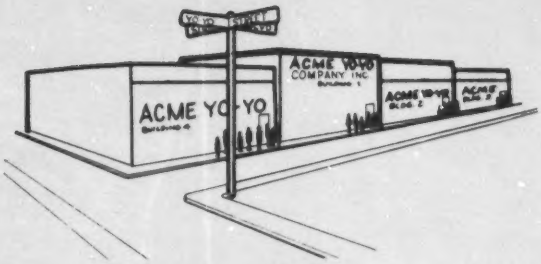
_____

If the demand for yo-yos increases so that Acme can sell as many yo-yos as it wants for $3 each, what effect will this have on Acme's level of employment? _____

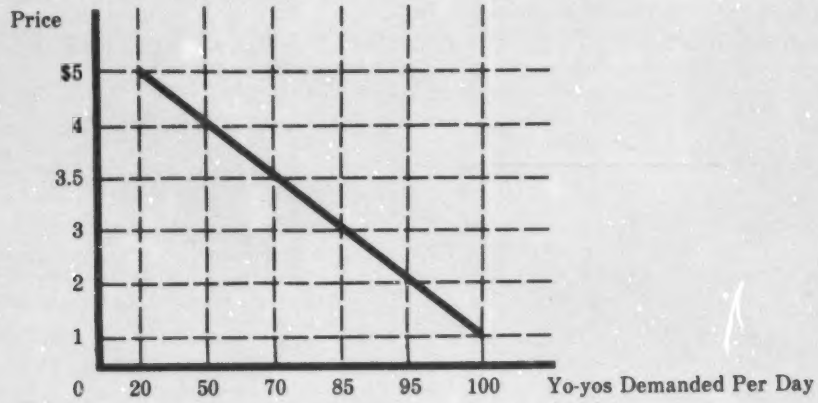
_____

In order to make as much profit as possible, a firm should hire an additional worker as long as that worker's labor produces a _____ that is greater than _____

THE ONLY (YO-YO) GAME IN TOWN



Instead of being able to sell as many yo-yos as it wants at $2 each, suppose that Acme Yo-Yo Co. is a monopolist. This means that Acme has no direct competition in selling yo-yos (although Acme will face competition from others kinds of toys and games). Acme finds that, as a result of its monopolistic position, it can charge a price higher than $2 if it wants to cut back its production and sell only a few yo-yos each day. Acme will, however, have to lower its price to sell additional yo-yos. Suppose that Acme finds that the demand for its yo-yos looks like this:



What effect will this have on Acme's demand for labor? You can figure this out by using the same procedure you followed when the price stayed constant at $2. You will have to calculate how much additional revenue will be brought in by hiring one more worker, and comparing that extra revenue with the extra cost of hiring the worker (i.e., the wage rage).

You can use the same table you used before except that now the price changes if more yo-yos are sold:

1 Number of Workers Hired	2 Level of Output (Number of yo-yos produced per day)	3 Extra Output (from hiring one more worker)	4 Price at which yo-yos can be sold	5 Total Revenue (PxQ, or col. 4 x col. 2)	6 Marginal Revenue Product (the change in total revenue from previous level).
0	$ 0	0	$0	$0	---
1	20	20	$5	(20x$5) = $100	$100
2	50	_____	$4	_____	_____
3	70	_____	$3.50	_____	_____
4	85	_____	$3	_____	_____
5	95	_____	$2	_____	_____
6	100	_____	$1	_____	_____

How does Acme's demand for labor differ from when its product sold for $2 each? _____

_____

_____

_____

Acme's decision-making rule is the same: if an additional worker adds more to revenue than cost, this worker should be hired. If Acme can still hire workers at $25 per day, how many workers should Acme hire? Why? _____

_____

_____

_____

THE DEMAND FOR LABOR

Given a wage rate and a schedule of how much additional revenue different numbers of workers would create for a firm, it is fairly simple to determine how many workers should be hired.

A very different question, but one just as important to employers, workers, and students who will soon be working, is what will cause the number of workers hired *at all possible wage rates* to rise or fall? In other words, what will cause the entire schedule of a firm's demand for workers to change. If demand increases, more workers will be hired and receive higher wages (assuming the supply of workers doesn't change). If demand falls (with no change in supply) fewer workers will be hired and wage rates will fall.

The demand for labor, and for that matter the demand for any resource used to produce products, will change anytime one of three basic factors changes:

- Demand will increase if that factor, say labor, becomes more productive, and fall if labor becomes less productive. If, through education, training, experience, or the opportunity to work with more and better machinery, workers produce more output, they will become a more valuable resource, so wages and salaries will rise.
- If the demand for the final product labor produces rises, then the demand for labor will increase, too. Of course when demand for the final product falls, fewer workers will be required to make the product. For example, there isn't a large demand for blacksmiths anymore.
- If the price of other resources which can substitute for labor in the production of a product goes down, employers will use more of that resource and less labor. But, if labor becomes less expensive relative to capital, land, energy or other resources that are used in making products, employers will naturally hire more labor, and less of the other inputs.

Based on class discussion or reserch on expected changes over the next 10-15 years, use the information presented above and complete the table below by stating, for each of the groups of workers listed, whether you believe the number of workers hired in these areas will increase faster, slower, or about the same as average hiring across all occupations in the United States during the same time period. List briefly the major reason why you might expect to see such changes. (You may want to refer to the U.S. Bureau of Labor Statistics *Occupational Outlook* series.)

Occupation	Employment and Salary Increases Compared with Average Increases Throughout the Nation for all Occupations			
	Faster	About the Same	Slower	Reason for Change
Teachers				
Electronics Technicians				
Assemby-line Operators in Detroit				
Nursing-home Attendants				
Semi-skilled workers in Phoenix, Arizona				
Coal Miners				
Dry Cleaners				
Dentists				
Gas Station Attendant				
Auto Mechanic				
Astronaut				
Lawyers				
Physicians				
Newspaper Reporters				
Travel Agents				

WAGE AND NON-WAGE ASPECTS OF JOB

An important factor that most people consider when making job and career decisions is the amount of money they will earn. High salaries/wages attract workers into certain jobs. Low paying jobs are usually filled by workers with little or no experience, few skills, and little training and/or education. Many workers who start in low-paying jobs, however move on to better paying jobs after gaining experience and training "on the job," which expands their opportunities.

Workers consider other factors when making job and career decisions besides the size of their paycheck, however. These may include such factors as:

1. Location
2. Risk
3. Possibilities for advancement
4. Educational requirements
5. Talent requirements
6. Freedom
7. Creativity
8. Security
9. Status
10. Power
11. Working conditions

When people make job and career decisions, they weigh the advantages and disadvantages of the various factors. People tend to choose jobs and careers that will bring them maximum benefits—a high salary/wage plus satisfactory ratings on the other factors. Because people have different skills *and* place different values on all of the factors described above, at times making trade-offs among these factors, they make different job and career decisions.

1. Consider the career decisions made by Eleanor, Julian and Sissy in the film "Wages and Production." What are some of the factors they probably considered in deciding to work at Eleanor's Furniture Factory?

_____

_____

2. Here is a list of jobs and careers; identify advantages and disadvantages of each using the factors identified at the top. You may want to include additional non-wage factors.

_____

_____

	Starting Salary/ Wage Rate	Location	Risk	Possibilities for Advancement	Educational Requirements	Freedom
1. Auto Mechanic						
2. Computer Programmer						
3. Nuclear Physicist						

Complete this chart by listing some jobs/careers in which you are interested. Identify the advantages and disadvantages of each of your choices.

3. Can you put a dollar value on non-wage factors? _____

Explain. _____

_____

_____

STEVE SUPERSHOOTER SIGNS CONTRACT FOR $1 MILLION!!!

Why do you think Steve and other professional athletes are offered a $1 million contract? Are they worth it? _____

_____

_____

_____

_____

_____

Since there are only a limited number of Steve Supershooters, most of us will probably not be offered million-dollar contracts. However, salary is an important consideration when planning for a career or looking for a job. Try to look ten years into the future. In which careers or jobs do you think the salaries will be highest? List below five careers or jobs which you think will be in great demand and therefore will probably pay high salaries. Explain briefly why you decided on your list.

_____

_____

_____

_____

_____

_____

_____

_____

Now try to determine which type of career or jobs may not be paying high salaries ten years from now. List below five careers or jobs which you think will not be in great demand. Explain briefly why you decided on your list. _____

_____

_____

_____

_____

In planning for a career what else might be considered besides wages? List below as many other factors as possible that might influence a career choice. _____

_____

_____

_____

Consider a future career for yourself. Write a brief paragraph below describing your most likely career choice at this time. Explain what factors helped you to make your choice. _____

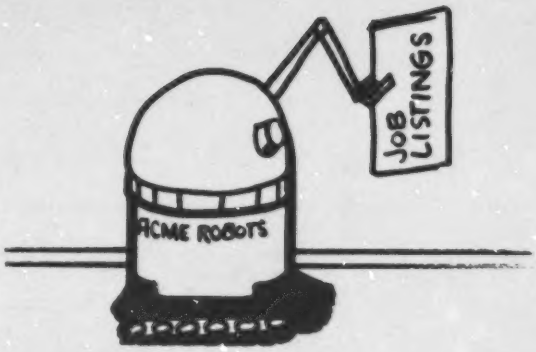
_____

_____

_____

_____

AUTOMATION AND THE DEMAND FOR WORKERS



"The Speedup in Automation"

After a decade of decline in the face of low-cost, high-quality imports, U.S. industry is beginning to automate at a pace that will soon change the face of American factories and offices. Within reach are computer-controlled systems of robots and other sophisticated machines that will replace most humans on plant floors and produce unprecedented gains in productivity. Automated equipment is moving into offices, too, and both trends portend a radical restructuring of work, with jobs becoming more technical and more complex than ever. Altogether, these changes will affect more than 45 million American jobs, many of them during the next 20 years.

Business Week
August 3, 1981

"The Factory of the Future"

The "factory of the future" is here. In Florence, Ky., Japan's Yamazaki Machinery Works is building a new $15 million machine-tool parts plant, one of the world's first entirely automated factories. When it is completed in 1983, the Yamazaki plant will require only six human workers to tend its master computer, keep an eye on the robots—and sweep the floor. American companies, including giants such as GE, Boeing, Deere & Co. and General Motors, are also pushing to create highly automated manufacturing plants. "U.S. business has three choices in the '80s," says James A. Baker, an exectuive vice president at GE: "automate, emigrate—or evaporate."

Newsweek
September 6, 1982

Many business firms, including Steve's Ant Farm, are turning to automation as a means for increasing output while controlling the costs of production. This trend will have an increasing impact on jobs and employment. To learn more about the impact of automation, consider the following table.

Selected National 1978 employment, projected 1990 requirements, . . . by occupation* (numbers in thousands).

OCCUPATION	1978 Employment	1990 Employment	Percent Change 1978-1990
Total all occupations	94,37[illegible].6	114,000.3	20.8
Chemical engineers	53.0	63.6	20.0
College and university teachers	583.2	500.0	-14.3
Stenographers	94.0	68.0	-27.7
Typists	1,044.0	1,246.0	19.3
Data processing machine repairers	63.0	121.0	92.1
Solderers	37.8	24.0	-36.5
Security guards	548.0	820.0	49.6
Farm laborers	971.0	794.80	-18.1
Computer programmers	247.0	320.0	29.6
Electrotypers and typesetters	2.0	.90	-55.0

* The National Industry – Occupation Employment Matrix, 1970, 1978, and Projected 1990. Bureau of Labor Statistics, April 1981.

1. Identify three occupations where the projected increase in employment will exceed the national average.

_____

2. Identify two occupations where the projected increases almost match the national average.

_____

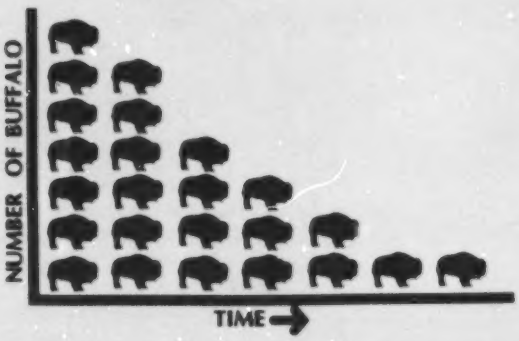
3. What is the percentage change in the number of workers needed from 1978-1990 in the following occupation:

College and university teachers ____
Data Processing Machine Repairers ____
Farm laborers ____
Computer programmers ____
Security Guards ____
Solderers ____

4. Consider the impact of automation on the following occupations. Will automation increase the demand for workers, reduce the demand for workers, or have little or no impact on the demand for workers? Also, identify other factors that may influence the demand for workers in each occupation.

OCCUPATION	IMPACT OF AUTOMATION	OTHER FACTORS INFLUENCING DEMAND
College and university teachers		
Data processing machine repairers		
Farm laborers		
Computer programmers		
Security Guards		

THE DIMINISHING BREED



The buffalo has long been viewed as a symbol of the American West. Read the following passage about buffalo in the United States and then answer the questions which follow.

The North American bison or buffalo was the largest wild animal on the continent, with the bull ranging from 1,600 to 2,000 pounds in weight and standing about six feet in height. In the 1870's millions of these beasts roamed up and down the plains of the United States. Even as late as 1870 one awed observer saw a great herd at the Arkansas River, and he said the crossing took six to seven weeks. Although the supply of buffalo seemed limitless at the time, well over ten thousand hunters had already flooded the plains.

The Indians and the white men had sold buffalo hides at frontier trading posts since the 1760's. However, the only hides of value were taken during the fall and winter when the buffalo had a fine, thick fur. These skins made good robes, coats, and overshoes. Then in 1870 tanners in Germany perfected a method of making buffalo hides into a useable leather. Hides could now be made into furniture covering, wall paddings, buckboard seats and belts for machinery. The prices for hides rose rapidly and thousands of white hunters began following and slaughtering the huge herds. By 1881, these beasts were on the verge of extinction!

Many citizens viewed the killing as wasteful. When the animal had been in great abundance and the white settlers in fewer numbers, a hunter would kill one for food and perhaps a few for extra income. The Indians needed the buffalo even more than did the settler; they were a means of survival for the Indians. The plains tribes, in particular, depended on the buffalo for many necessities of life, including goods secured from white traders in exchange for hides.

The Indian's anger mounted as he viewed the destruction of buffalo herds by white hunters who kept only the beasts' hides, and possibly, tongues or choice cuts of meat. Before long, fierce skirmishes had broken out between the Indians and settlers.[1]

1. Using what you learned from "Property Rights and Pollution," how would you account for the great decrease in the buffalo population of the United States from 1870 to 1880? _____

2. How was the buffalo used before 1870? _____

3. Buffalo did not become extinct. Use reference books to find out what prevented the extinction of the buffalo.

4. Name another animal which has nearly faced extinction because property rights were not clearly defined.

   Try to find out what action was initiated to prevent the extinction of this animal and report on this to your class.

[1] Excerpted from *Profiles of Entrepreneurs in Oklahoma History* published by the Oklahoma Council on Economic Education.

SMOKING RIGHTS FOR SALE

In recent years the debate over the right of persons to smoke in public places has intensified. This debate centers on a smoker's or a non-smoker's right to use air space. That is, the heart of this issue is one of property rights. Who owns air space and the right to use it?

A large number of citizens now argue that *they* have the right to breathe unpolluted air. On the other hand, smokers believe it is *their* right to use the air to smoke as much as they please. Could a voluntary exchange, which would reveal the value of using air, take place? For example, could smokers pay non-smokers for the right to smoke? Or could non-smokers pay smokers not to smoke and leave the air cleaner?

1. How would a voluntary exchange between two passengers in a person's private automobile for the right to smoke or enjoy clean air illustrate the economic value of clean air? _____

   _____

   _____

   Would such an exchange be more or less difficult to negotiate on a public bus? Explain your reasoning. _____

   _____

   _____

   _____

2. Why has this issue become more controversial in recent years? _____

   _____

Various schemes have been undertaken to alleviate this problem. For each of the suggestions below, identify who benefits and who loses.

Scheme	Who Benefits?	Who Loses?
a. Smoking is Banned		
b. Smoking is allowed anywhere		
c. Smoking allowed when no one objects, and smokers can pay non-smokers for the right to smoke.		
d. Prohibiting smoking is allowed when no one objects, and non-smokers may pay smokers to stop smoking.		

3. Would the amount of smoking allowed under policies c and d be related? _____

   _____

   _____

   _____

Read the newspaper article below which describes one business owner's "answer" to this problem. Then answer the questions which follow the article.

YPI (Columbia City, SC) Howard Rouse, owner of the popular "Rouse's *Deli*", reports an interesting technique for handling the smoking-no smoking problem.
"Over the last few years," said Rouse, "more and more customers have been complaining about the cigarettes and cigar smoke in my deli. Even though a few of my best customers are smokers, it finally got to the point that something had to be done!"
Two weeks ago signs at the entrance to the deli announced a fee of $1.00 would be added to the bill of anyone who smoked while in the deli.
Rouse admitted that the volume of customers per day had declined somewhat initially, but claimed that was offset later by more non-smokers, who seemed happier now the deli was not filled with as much smoke. Some were reported to have brought their smoking friends, just to watch their reaction to the extra charge.

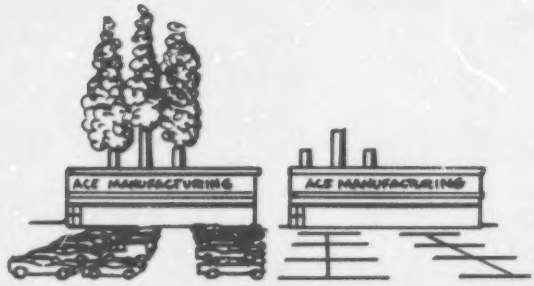
1. How did this businessman attempt to solve the question of property rights to "clean" air? _____

2. What problems associated with this course of action can you identify? _____

3. What costs are involved with this action? _____
   What benefits result? _____
   Would the benefits outweigh the costs? _____

Imagine that you are the owner of a very popular restaurant. Some of your best customers have complained about the excessive amount of smoke in your establishment. You are, however, faced with the fact that at least one-half of your customers are smokers. What would you do? _____

Question: Is Perfect Always Best?
Answer: It's a Matter of Degree!



Southeastern Power Company is a privately-owned utility company with over 15,000 stockholders. Eighty percent of its generated electricity is produced at coal-powered plants. For several years complaints have been building up about the pollution caused by an older plant near Clear City. This is the largest plant in the company's three-state network. Residents complain that each day cars are covered with fine ash coming out of the plant's huge stacks. Laundry can no longer be hung out to dry.

Finally, the Public Service Commission, which regulates this utility decides the company must "fully recognize the benefits to the public of pollution control and reduce pollution to a healthful and efficient level." That turns out to be even more difficult to interpret and carry out than it sounds, so the company officers hire a respected consulting firm to determine the costs and benefits of installing equipment to reduce the present level of air pollution. After months of study, the consultants present the following information to the company's Board of Directors meeting.

	Reduction in Pollution Level		Total Costs of Controls	Total Benefits of Controls
Polluted Air	1st	10%	$ 100,000	$10,000,000
	2nd	10%	$ 300,000	$18,000,000
	3rd	10%	$ 600,000	$24,000,000
	4th	10%	$ 1,100,000	$28,000,000
	5th	10%	$ 1,900,000	$30,000,000
	6th	10%	$ 2,900,000	$31,600,000
	7th	10%	$ 4,100,000	$32,800,000
	8th	10%	$ 5,600,000	$33,600,000
Pollution-free Air	9th	10%	$ 8,100,000	$34,000,000
	10th	10%	$11,100,000	$34,100,000

After a long period of silence (probably caused by the magnitude of the figures), one director said, "Well, it doesn't make much difference what we spend; the benefits outweigh the costs at each level."

"But," replied company economist, "let's take a look at what benefits each *additional* level of control will provide. Then we can compare those benefits with their costs. I'm going to add two columns to the table and begin the computations; you complete the table." After a couple of minutes, the table looked as follows. You complete the table.

Reduction in Pollution Level		Total Costs of Controls	Marginal Costs	Total Benefits of Controls	Marginal Benefits
1st	10%	$ 100,000	$ 100,000	$10,000,000	$10,000,000
2nd	10%	$ 300,000	$ 200,000	$18,000,000	$ 8,000,000
3rd	10%	$ 600,000	$ 300,000	$24,000,000	$ 6,000,000
4th	10%	$ 1,100,000		$28,000,000	
5th	10%	$ 1,900,000		$30,000,000	
6th	10%	$ 2,900,000		$31,600,000	
7th	10%	$ 4,100,000		$32,800,000	
8th	10%	$ 5,600,000		$33,600,000	
9th	10%	$ 8,100,000		$34,000,000	
10th	10%	$11,100,000		$34,100,000	

What would you recommend as the economically desired level of control? Spend _____ to reduce pollution by __ %.
Why is it uneconomical to spend more to reduce pollution even further? _____

_____

_____

_____

Try to apply what you learned in the activity above to the following situation.

Semester exam dates are rapidly approaching. Only two weeks left!! You're doing great in history, but have neglected algebra for two weeks and have a B- going into the exam. In addition to study time needed to maintain your A in history, you estimate the study time on algebra you need to obtain different semester exam results as follows:

Study Time	Grade
0 hrs.	45%
2 hrs.	65%
5 hrs.	82%
9 hrs.	90%
15 hrs.	95%
24 hrs.	98%

What would you do? Explain your reasoning. _____

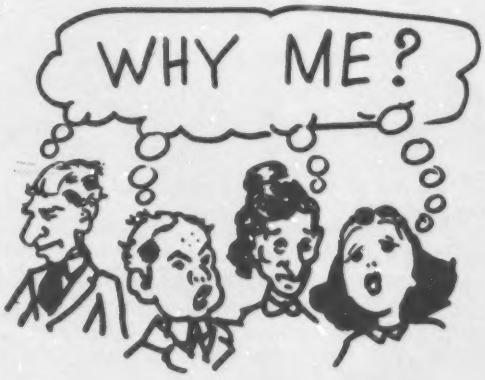
_____

_____

_____

_____

$ $ WHO PAYS? $ $



The Southeastern Power Company decided at its Board of Directors meeting to spend $4,100,000 to reduce the air pollution created by its Clear City plant by 70%. (YOU MAY WANT TO REVIEW THE ACTIVITY SHEET, "QUESTION: IS PERFECT ALWAYS BEST?" BEFORE COMPLETING THIS ACTIVITY.) Company executives also approved a motion directing the company economist to add this $4.1 million expenditure to the $42 million rate hike being presented to the Public Utilities Commission of the state in which Clear City is located. A "news leak" developed and citizens are angry that they will be asked to pay, through increased electricity rates, for cleaning up pollution which they claim they never caused. The next week the company's annual report was released, and newspaper headlines throughout the state read, "Southeastern Power Reports Earnings of $48 million in 1982." A groundswell of public support develops for the company to pay for pollution control out of its $48 million of profit.

Use the above reading to answer the following questions.

1. The company reported a $48 million profit. Many of its customers felt this profit was "excessive." What other information would you like to have before making a judgment as to whether this amount of profit is excessive? _____

2. If the Public Utilities Commission approves the total rate increase ($46.1 million), who will pay for the air pollution control? _____

   How will this charge be assessed? _____

3. If the Public Utilities Commission does not approve the rate increase hike and the company goes ahead and installs the equipment, who will pay for the air pollution control? _____

   What effects might this eventually have on the company's power customers? _____

4. In a television interview during the public debate, the company economist made the following statement: "The basic problem is that all along consumers have been paying an artificially low price for electricity." What do you think the economist means by this statement? _____

5. Why was the utility able to pollute the air for so long? _____

After you have answered the above questions, your teacher will divide the class into two groups; one group to present the case for approval of the rate increase, one group to present the case for paying pollution control expenses out of company profits. After sharing individual responses to the above questions, each group should select one representative to present its case to the entire class. Your teacher will serve as the regulatory commission and determine which presentation is most effective, or appoint someone to serve as the commission.

HOW DO WE GET MORE?

In many cities in the United States, large and small, people are purchasing and renovating old, run-down houses in once magnificent residential areas near the downtown business district. Middle- and upper-income families largely account for this modern housing trend. Pride runs so high in some cities that certain residential areas host "open houses" to show off the results of owners' labor and investments.

1. Why might a family be motivated to buy a dilapidated home in an area near the central business district? _____

2. As each new incoming family purchases and renovates an older home in the area, what will happen to the value of other properties in the neighborhood? _____

3. Will existing homeowners compensate an incoming family for the value of the new owner's renovation will add to other properties? Explain your reasoning. _____

4. Does *everyone* benefit from the renovation of older homes? Can you identify a "cost" associated with this housing trend? _____

The above situation illustrates external or "spillover" benefits. An external benefit means that someone other than the buyer and seller in a transaction is made better off. Since buyers and sellers do not receive all of the benefits involved, too few resources are allocated to the production of goods and services which provide external benefits. In the case described above, what actions might encourage the "production" of goods (renovated homes) which result in external benefits? _____

How might one determine whether such actions were economically justifiable? _____

Explain how each of the actions below *might* result in external benefits.

1. A local industry constructs a ball field for the use of its employees. _____

2. Your best friend is vaccinated against Hong Kong flu. _____

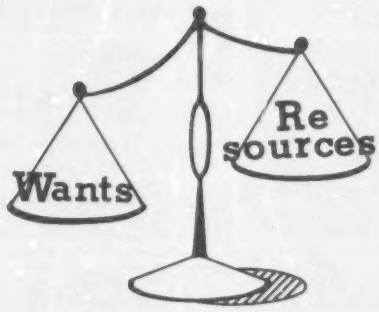
3. The provision of public elementary and secondary education for all citizens. _____

4. The teacher assigns students to five-member committees for class projects. _____

Can you identify another example of an action which results in external benefits? How might more of that action be encouraged? _____

Can you give examples of external or spillover costs? _____

UNLIMITED WANTS – LIMITED RESOURCES



The study of economics is based on two fundamental assumptions:

PEOPLE ALWAYS WANT MORE
and
ECONOMIC RESOURCES (such as labor, capital, consumer goods & services, time) ARE LIMITED

Because people always want more than can be produced, CHOICES have to be made. For example, you often have to choose between pizza or hamburgers for lunch, or between going to a movie or watching television at home. Everyone has to make choices.

At one time or another, though, you may have thought to yourself, "If I only had a million dollars, I'd have it made!" Is that really true?

Answer each of the following questions:

1. You receive $100 from your relatives as a graduation gift. How would you spend that money? _____

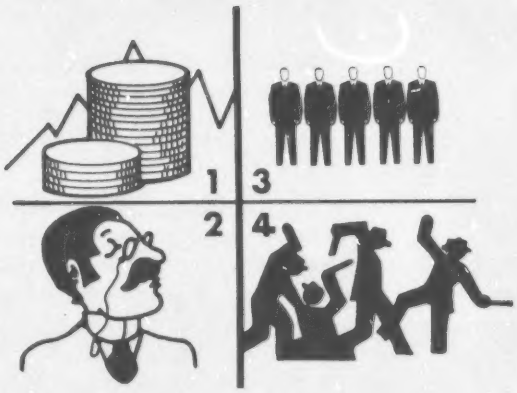
2. Your Uncle Waldo dies and leaves you $10,000. How would you spend that money?

3. You win the Illinois State Lottery and get a check for $1,000,000. Could you spend all of it? How? _____

4. If you had all the money you wanted, are there still other things you would not have enough of? (HINT: Are there some things money can't buy?) What would those scarce things be? (TIME, KNOWLEDGE, GOOD HEALTH, CLOSE FRIENDS, ETC.)

By now you probably see that there is NO WAY people can ever have everything they want. Though this may make you somewhat sad, it should make clear the need for making good CHOICES to get the most satisfaction from the things you can have.

WHO GETS WHAT?



One of the key questions that all economic systems must provide answers for is the question of "Who gets to consume what goods and services?" There are several ways to develop answers to this question, including:

MARKET – Anyone who is willing and able to pay the market price can have the product.

PERSONAL CHARACTERISTICS – Some agency is established to determine that any person with a specific quality or set of qualities (such as age, sex, attractive appearance or certain income levels) can have the products.

QUEUING – Anyone willing to stand in line long enough can have the product if they get in line early enough (otherwise known as first come, first served).

VIOLENCE – Anyone who can take the good and keep it can have it.

In the United States, the basic method used to determine who gets what is the market. However, other ways are used at times, or sometimes combinations of these methods are used.

For each of the following scarce resources, list which method or methods is used in our economic system to determine who will receive the product. The first one is done for you.

EXAMPLE:

Rembrandt paintings	MARKET – anyone who can pay the price
Welfare payments	(PERSONAL CHARACTERISTICS)
Money from a bank robbery	(VIOLENCE)
Tickets to the Senior Prom	(PERSONAL CHARACTERISTICS – SENIORS & THEIR GUESTS – AND PRICES)
Use of roads and highways	(SOME MARKET, BUT USUALLY PERSONAL CHARACTERISTICS – ALL CITIZENS – OR QUEUING)
High grades in your classes at school	(PERSONAL CHARACTERISTICS – BRIGHT, HARD-WORKING STUDENTS)
Radio stations	(COMBINATION OF MARKET AND PERSONAL CHARACTERISTICS – THROUGH GOVERNMENT LICENSING BY THE FCC)
Camp sites at a state park	(USUALLY QUEUING: SOMETIMES MARKET, TOO)
Front-row seats at a free concert	(USUALLY QUEUING, SOMETIMES IN COMBINATION WITH MARKET)
Record albums	(MARKET)
Rolls-Royce convertibles	(MARKET)
Beauty contest prizes (e.g., Miss America)	(PERSONAL CHARACTERISTICS)

Would it make sense to use different methods for any of these products? Can you list other products which use these four methods to answer the "Who Gets What" question?

SUPPLY AND INTERDEPENDENCY

Books and magazines are very common products and, at times, very useful ones. You can find out just about anything by reading a book. You can also entertain yourself with an enjoyable book or magazine. But have you ever thought about how much it takes to make one of these products? This activity will help you identify some of the resources needed to produce a book, and help you see that production is a complex business, involving hundreds of people—some of whom may not even know that they help make these products.

1. First, list all the MATERIALS that you might need to produce a book. Where could you obtain these materials?
   (PAPER—U.S. NORTHWEST & SOUTHEAST
   INK—SEVERAL COUNTRIES
   PRINTING PRESSES—U.S. OR EUROPE
   FACTORIES—U.S. OR EUROPE
   PHOTOGRAPHIC MATERIALS, ETC.—U.S. NORTHEAST)

2. Next, list all the PEOPLE that might be involved in producing a book.
   (PRINTERS, PHOTOGRAPHERS, AUTHORS, TYPESETTERS, LAY-OUT ARTISTS, ETC.)

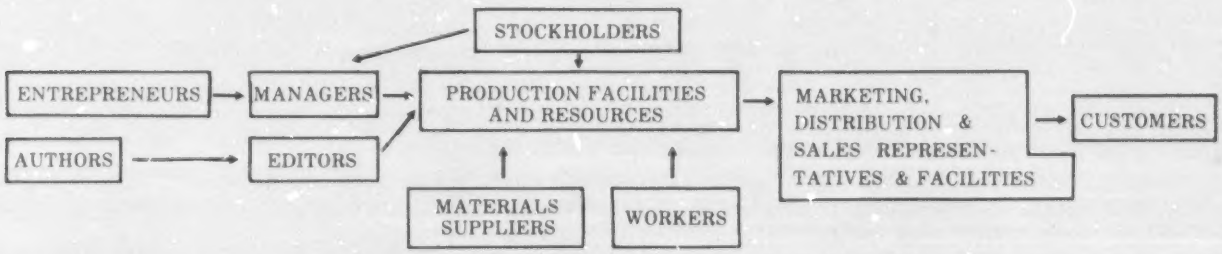
3. Now, tell what other resources or things a book company might need to produce and sell a book.
   (MARKETING & ADVERTISING FACILITIES, ACCOUNTANTS & SALES REPRESENTATIVES, ETC.)

4. Why are all these resources used to make books? (BECAUSE ENOUGH PEOPLE BUY BOOKS AT PRICES THAT ARE HIGH ENOUGH TO PAY THE COSTS OF USING THESE RESOURCES, INCLUDING A REASONABLE PROFIT FOR PEOPLE THAT TAKE THE RISKS TO PRODUCE THESE RESOURCES.)

Obviously, a large number of people, machines, and other resources are needed to set up a book company. Even more people, machines, and resources are needed to bring everything together in one place so the book can be produced.

5. On the back of this page or on another sheet, design a flow-chart diagram of your own that shows the general steps and resources involved in book production.

   IN GENERAL TERMS:



TO THE TEACHER: AN INVALUABLE RESOURCE FOR THIS ACTIVITY IS A BOOK FOR STUDENTS TO LOOK AT WHILE THEY MAKE THEIR LISTS. THIS CAN BE DONE AS A GROUP ACTIVITY, WITH THE FINAL DIAGRAMS BEING SHARED WITH THE CLASS. A GOOD FOLLOW-UP WOULD BE A VISIT TO A LOCAL NEWSPAPER OFFICE OR BOOK MANUFACTURING COMPANY.

CIRCULAR FLOW

Just like Market Street, your neighborhood has a variety of people all working at different jobs. See if you can name nine different BUSINESSES that hire people who live in your neighborhoods.

_____ _____ _____

_____ _____ _____

_____ _____ _____

All of these businesses offer a GOOD or SERVICE to people who are willing and able to pay for it. The people who buy the goods or services and use them are called CONSUMERS. All the members of your family (including you!) are consumers because you use things that are bought from businesses.

Many consumers also work for businesses as producers. These people may be doctors, carpenters, secretaries, salespeople or lots of other things. List some jobs that people in your neighborhood have.

_____ _____ _____

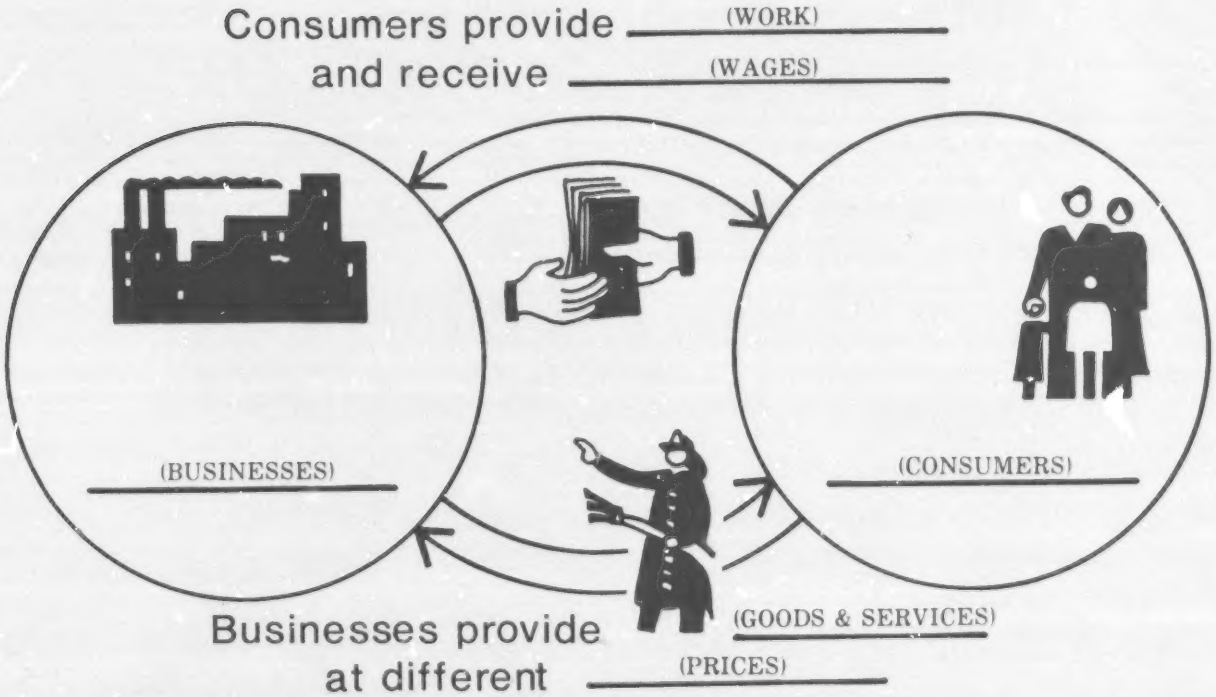
_____ _____ _____

All these people work for two main reasons: partly because they like their work, but usually because they get paid for it. The pay is known as WAGES or SALARIES. Then workers use their wages to buy goods and services from business and consume the products they buy. The money paid for a good or service depends on the PRICE of those products.

See if you can fill in the chart below.

WORDS TO USE

Prices	Consumers
Work	Goods and
Wages	Services
Businesses	



VACATIONS, LTD.

Describe briefly what you did on your vacation this past summer. _____

_____

_____

_____

_____

Did you and your family have different ideas as to where you might go on vacation? Was there a choice between some resort-type vacation and visiting relatives? Did the cost of the vacation and the time of summer when you could all leave affect your decision?

The decision-making grid below shows some vacation alternatives. Use a + and – symbol to indicate how you would evaluate each possible vacation against each of the criteria listed.

	CRITERIA			
ALTERNATIVES	MONEY COST	TRAVEL DISTANCE	INTERESTING & FUN	SEE OTHER LOVED ONES
Disneyland				
Visit Grandma & Grandpa				
Go to the beach				

Now list your own vacation and the kinds of vacations some of your friends took this summer in the blank spaces in the "alternatives" column above. Use the + and – symbols again to decide which of those vacations you think your family should take next year.

The opportunity cost of one choice is giving up the *next best* alternative. Indicate below what you feel was the opportunity cost of your vacation decision this year.

(THE OPPORTUNITY IS WHATEVER THE STUDENT WOULD LIST AS THE BEST ALTERNATIVE NOT CHOSEN.)

_____

_____

_____

UNIVERSAL PROBLEMS: SCARCITY AND SURVIVAL

Resources like labor, capital, energy, consumer goods and services and time, are scarce relative to all the things people want to buy and do. This activity sheet will help you see that because we live in an economic world of relative scarcity choices are inevitable, and that all choices involve costs.

*Survival**

Imagine that you live in Colorado and that a friend stops by your house on a Saturday morning in October. He suggests that you go with him for a day-long drive in the mountains to try out his new jeep. You quickly pull on jeans, a t-shirt and sneakers and go along. By late afternoon you are on a trail in a remote part of the Rockies, when suddenly a snow storm blows up. The trail soon becomes almost impassable and you can hardly see where you are going. Suddenly the jeep starts to skid and you plunge several hundred feet down a steep mountainside. Your friend is killed instantly and the jeep is completely wrecked, but fortunately you have only a few scratches. You believe you are thirty to forty miles from the nearest source of help. Luckily you discover a summer cabin nearby. Although it has no heat, except a wood burning fireplace, and no telephone, it does offer shelter and about a week's supply of food. You realize that you cannot hope to stay in the cabin until you are rescued, for no one has any idea where to start looking for you. Therefore, when the weather starts to clear up, leaving almost three feet of dry powder snow, you decide to try to follow the trail between the large trees and rocks back to civilization. You are fortunate that the cabin is well stocked with camping equipment and other supplies and you can find almost anything you want. But you also know that your survival over the three days it will probably take you to reach help will depend partly on how carefully you select what equipment to take. You cannot carry more than 50 pounds of supplies over this distance in these conditions. Decide which of the items you will wear or carry from the list of materials and their weights.

A. _____ wool hat (1 lb.)
B. _____ heavy wool mittens (2 lb.)
C. _____ axe (8 lb.)
D. _____ 50 feet of 1/8" rope (1 lb.)
E. _____ saucepan for melting snow for drinking (3 lb.)
F. _____ folding camping saw (1 lb.)
G. _____ rock-climbing gear, including rock hammer (10 lb.)
H. _____ 150 feet of 7/16" rope (8 lb.)
I. _____ gasoline camp stove and fuel (10 lb.)
J. _____ plastic canteen filled with water (2 lb.)
K. _____ one large can of beef stew (10 lb.)
L. _____ fire-starting kit, including matches (½ lb.)
M. _____ heavy wool jacket with hood (10 lbs.)
N. _____ pack frame and bag (6 lb.)
O. _____ five two-pound cans of soup and vegetables (10 lb.)
P. _____ sleeping bag (5 lb.)
Q. _____ downhill skis, bindings, poles (10 lbs.)
R. _____ air mattress (3 lbs.)
S. _____ down-filled jacket without hood (3 lb.)
T. _____ high-top hunting boots (6 lbs.)
U. _____ snowshoes (5 lbs.)
V. _____ canvas tent (15 lbs.)
W. _____ plastic tarp (2 lbs.)
X. _____ eight boxes of high protein dry cereal (4 lbs. total)
Y. _____ first-aid kit with splints and other equipment for bone fractures (4 lbs.)
Z. _____ first-aid kit without splints, etc. (1 lb.)
AA. _____ heavy wool pants (4 lbs.)
BB. _____ knife with can opener (½ lb.)

A Suggested Key for Survival

A	E	L	R	U	Z
B	F	N	S	W	AA
D	J	P	T	X	BB

Answer the following questions related to the above simulation:

1. What is scarce? (WHILE ALL OF THESE ITEMS ARE SCARCE, YOU ARE FORCED TO CHOOSE BECAUSE OF YOUR LIMITED STRENGTH – YOU MAY WEAR OR CARRY NO MORE THAN 50 POUNDS.)

*_Survival_ is adapted from the "Outdoor Endurance Exercise" by Stanford, G., and Roark, A. *Human Interaction in Education*. Boston: Allyn & Bacon, 1974.

2. Why were choices necessary? (EVERYTHING ON THE LIST IS USEFUL, BUT YOUR ENERGY RESOURCES WILL NOT ALLOW YOU TO CARRY MORE THAN 50 POUNDS.)

3. What were the costs of the choices you made? (THE ITEMS YOU HAD TO LEAVE BEHIND.)

4. Would everyone make the same choices? (NO. E.G., SOME CAN SKI BUT OTHERS CAN'T. SOME WILL CHOOSE CEREAL, OTHERS SOUPS OR BEEF STEW, REAL SURVIVALISTS MIGHT USE AN EMPTY CAN FOR MELTING SNOW AND NOT CARRY THE 3-LB SAUCEPAN.)

Disney or Dorothy: A Difficult Decision

Dan won a trip to Disney World as newspaper carrier of the year. The only charge he must pay is a $15 registration fee. The prize pays for his bus ticket, meals, housing, and admission ticket. Dan is so excited that he no longer minds not getting a new 10-speed bike for his birthday. (His parents had told him that they just couldn't afford to spend $200 for a bike.)

Dan discusses the coming trip with his best friend Fred:

"Fred, I can hardly wait until Saturday. That's when I leave for Disney World."

"But Dan, Saturday is Dorothy's party. It's the first time that your parents have allowed you to go to a party with a . . . a . . . you know, a *girl*!"

"*Saturday*? I thought the party was *next* Saturday!"

"Boy, are you lost in space! Dorothy has been planning that party for weeks. What are you going to do? You sure can't do both!"

"I don't know, Fred. That Disney World trip is worth as much to me as a new bike, but I really want to go to Dorothy's party, too."

"Why don't you exchange tickets for another week?"

"That won't work. I have to use them *this* Saturday, and I can't even sell or trade them to someone else. That's the way this prize is set up."

"Well, at least you paid only $15 for the trip. You haven't lost much if you decide to stay in town for Dorothy's party."

"I'm not so sure, Fred. The trip to Disney World is worth a lot more than $15 to me. The real cost of staying home feels more like $200. Anyway, that $15 is a sunk cost—it's down the drain whether I go or not."

---

1. Is Fred right? Would it cost Dan only $15 to stay home from Disney World? Or is Dan right—is the $15 already "down the drain," whether or not he goes to Disney World? Why? DAN IS RIGHT—THE OPPORTUNITY COST IS THE $200 VALUE THAT HE PUTS ON HIS NEXT BEST ALTERNATIVE, THE TRIP TO DISNEY WORLD.

2. What other things might Dan do on this weekend? Are all of those things a real cost of doing whatever he finally does decide to do? (NO, SINCE TIME IS LIMITED, DAN CAN ONLY DO ONE SET OF THINGS ON THE WEEKEND, AND THE REAL COST OF DOING THAT IS ONLY THE NEXT BEST SET OF THINGS HE COULD DO IN THAT TIME.)

3. Dan must decide whether or not to go to Dorothy's party.
   (a) How would *you* decide. List the steps in your decision.

(TYPICAL STEPS SHOULD INCLUDE:
(1) DEFINE THE PROBLEM: DAN CANNOT DO EVERYTHING THAT HE WANTS TO DO THIS WEEKEND.
(2) IDENTIFY THE ALTERNATIVES: ATTEND DISNEY WORLD OR ATTEND DOROTHY'S PARTY.
(3) STATE THE CRITERIA: E.G., ARE THERE OTHER COSTS? WILL I HAVE FUN? WILL MY PARENTS APPROVE? CAN I DELAY THE ACTIVITY UNTIL A LATER DATE?
(4) EVALUATE THE ALTERNATIVES: SHOW DECISION GRID.
(5) CHOOSE THE BEST ALTERNATIVE.
(6) AFTER YOU DO WHAT YOU DECIDE TO DO, EVALUATE YOUR DECISION AGAIN TO SEE IF IT WAS A WISE CHOICE.)

   (b) Often it helps to write down alternatives when we have to choose. Use the chart below to help you compare the alternatives. Use pluses or minuses in the boxes to show how well each of the alternatives satisfies the criteria. You may wish to add additional alternatives or criteria that you think are important.

Criteria / Alternative	Are there other costs?	Will I have fun?	Will my parents approve?	Can I delay it until another time?	
Attend Disney World					
Attend Dorothy's party					
Stay home all weekend					

(c) Are some of these criteria more important to you than others? How does that influence your choice? (IF ONE CRITERIA IS, BY FAR, MOST IMPORTANT TO YOU, YOU SHOULD DO WHAT SATISFIES THAT STANDARD EVEN IF OTHER CHOICES SATISFY MORE OF THE CRITERIA THAT YOU CONSIDER LESS IMPORTANT.)

4. List below the costs and benefits of attending the party. Can you put a dollar value on these costs and benefits?

Costs	Benefits
(E.G., FOREGONE TRIP TO	(FUN)
DISNEY WORLD: $200)	
(TRAVEL COSTS)	

5. Would your answer to #3 above be different if Dan could trade in his ticket for a different week? Why or why not? (YES: HE WOULD NO LONGER HAVE TO GIVE UP HIS TRIP TO DISNEY WORLD – JUST POSTPONE IT.)

6. In what way is Dan's $15 "down the drain" if he goes to the party, *or* if he goes to Disneyland? (NEITHER THE BENEFITS (FUN) OR COSTS DAN WILL PAY IF HE CHOOSE TO GO TO DISNEY WORLD OR TO DOROTHY'S PARTY AT THIS TIME ARE AFFECTED BY THE $15 HE HAS ALREADY SPENT. THEREFORE, THIS $15 IS TRULY A SUNK COST THAT SHOULD NOT BE CONSIDERED IN MAKING A DECISION AT THIS TIME.)

You Mean It Costs To Choose?

An economic choice allows us to have one thing only at the expense of giving up something else that we might like to have. Suppose a person had only enough time to devote to a part-time job to receive $10 a week in wages. However, each week the person wants to buy more than one $10 item. The real cost of buying that most wanted item is not being able to purchase the next most wanted item. In the following set of examples, each case has four identical elements—a choice-making opportunity, a scarce resource, someone who must make a decision and an opportunity cost. After reading each example, identify the key elements in the space provided, then explain briefly why you made the choice you did.

Ex. 1. Heather Alcorn can use her after school hours to work at Johnson's Market *or* participate in a varsity sport.

Decision Maker: (HEATHER)

Scarce Resource: (TIME)

Choice You Would Make: (STUDENT CHOICE)

Why: _____

Cost of Your Choice: (THE ALTERNATIVE NOT CHOSEN)

Ex. 2. Peter Halmos can use the $10 he received to buy some new books *or* the cassette tape he wants.

Decision Maker: (PETER)

Scarce Resource: (MONEY)

Choice You Would Make: (STUDENT CHOICE)

Why: _____

Cost of Your Choice: (THE ALTERNATIVE NOT CHOSEN)

Ex. 3. Mrs. Beniquez can rent her spare bedroom to a college student *or* use it for her sewing room.

Decision Maker: (MRS. BENIQUEZ)

Scarce Resource: (ROOM, SPACE)

Choice You Would Make: (STUDENT CHOICE)

Why: _____

Cost of Your Choice: (THE ALTERNATIVE NOT CHOSEN)

Probably not all students in this class will have made the same choices in all three examples. Why do you think that different people make different choices? (IN MAKING THE DECISION, EACH PERSON WEIGHED THE ADVANTAGES (BENEFITS) AND THE DISADVANTAGES (COSTS) OF EACH CHOICE. BECAUSE OF DIFFERENT VALUES, TASTES AND PREFERENCES, INCOMES AND EXPERIENCES, EACH PERSON MAKES A DECISION BASED ON HIS OR HER INDIVIDUAL CALCULATION OF THE COSTS AND BENEFITS IN EACH CHOICE.)

BUT, not all decisions are as simple as the ones we just finished: the decision maker is not always an individual, and the choices are not always limited to two. When there are more than two choices, the opportunity cost of a choice is only the value of the next best choice, *not* the value of all the remaining choices.

NOW, try these two examples:

Ex. A. Because of a poor crop, a small, family-owned, peanut company decides to produce only one product instead of making the three products it usually makes. In a close vote, forty shockholders vote to produce dry roasted peanuts, thirty-five vote to produce peanut oil, and twenty-five vote to produce peanut butter. As a result, the company decides to use all their peanuts in the production of dry roasted nuts.

Decision Maker: (COMPANY, OR STOCKHOLDERS)

Scarce Resource: (PEANUTS)

Choice Made: (TO PRODUCE ONLY DRY ROASTED NUTS)

Cost of Choice: (PROFITS ASSOCIATED WITH PRODUCING PEANUT OIL, ASSUMING THE GREATER NUMBER OF STOCK HOLDERS WERE CORRECT IN SEEING THIS AS MORE PROFITABLE THAN MAKING PEANUT BUTTER.)

Ex. B. In a difficult choice, the class of Elk Hill High School decides to spend the money it made from the car wash/bake sale to hire a better band for the prom rather than to purchase a new cold water fountain for the school or to refurnish the student lounge.

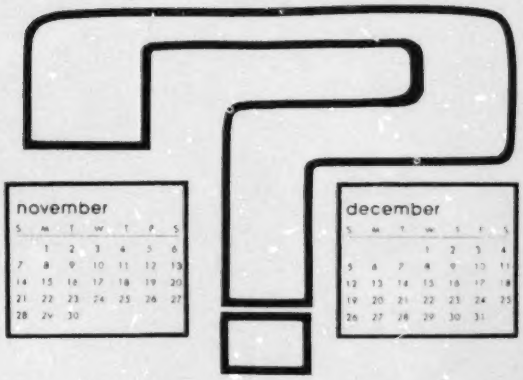
Decision Maker: (SENIOR CLASS)

Scarce Resource: (MONEY, OR MORE GENERALLY THE RESOURCES AND OPPORTUNITY TO MAKE MORE MONEY.)

Choice Made: (BETTER BAND FOR PROM)

What do you need to know before you can know the cost of their choice? (WHAT THE CLASS'S SECOND CHOICE WAS; THE COST OF CHOOSING THE BAND WOULD BE THE VALUE OF THE SECOND CHOICE ONLY.)

WAS IT WORTH IT, GEORGE?



We have all done things we wish later we had not done. At the same time, we have all made choices we were happy with later. This worksheet will help you know in advance whether you are likely to be happy or sad with a particular choice.

* * * * * * * * * * *

You have been offered a part time job from November 1 to December 31. You will work at a shoe store from 7:00 to 8:00 before school and from 3:30 to 5:30 after school Monday through Friday, and from 6:00 to 10:00 at night on holidays and every Saturday. You will receive $3.00 an hour after payroll deductions are made.

1. How much money will receive if you take the job?
   (Count the hours you will work and multiply by $3.00.) $ (504)

2. Estimate how much extra you will have to spend because you take the job?

Special clothes	$ (ESTIMATES SHOULD VARY WITH DIFFERENT STUDENTS)	
Traveling to work and home	$ _____	
Hire your brother, sister, or someone else to do your work at home.	$ _____	
Other	$ _____	
TOTAL		$ _____

3. How much money will you have left after paying these expenses? $ _____

4. Write a sentence telling how you would use this money. _____

_____

There are advantages and disadvantages to having a job before and after school and on holidays. Consider the following points, and put an x in either the advantage or disadvantage column to indicate whether you think it would be to your advantage or disadvantage to take the job.

	Advantage	Disadvantage
1. Spending your money as you described in #4 above.	(X)	
2. Contacts for future jobs.	(X)	
3. Working with fellow employees.	(?)	(?)
4. Meeting people.	(?)	(?)
5. Pleasing your parents.	(?)	(?)
6. Social life.	(?)	(?)
7. School grades.		(X)
8. Working Thanksgiving and Christmas day.		(X)
9. Other (explain) _____		
Put a * next to the advantages or disadvantages you feel are very important. TOTAL		
# of *'s in each column		

Would you take this job? _____
(ANSWERS SHOULD DIFFER)

If there are more important advantages than disadvantages in taking the job, you will be happy you worked. If there are more disadvantages, you will be sorry. But remember, it all depends on which things *you* think are most important.

The more realistic you can be in deciding the dollar value of the job to you and the better you can list and evaluate the other advantages and disadvantages of having a job, the more you can tell in advance whether you will be happy or sad with your choice to work or not work. Next January, when someone asks, "Was it worth it, George?" you can usually say "Yes, just as I thought it would be"—*if* you do a careful job in planning and decision making now.

FREE GOODS?
—THERE IS NO SUCH THING AS A FREE LUNCH
—SANTA CLAUS IS DEAD
—EVEN EDEN CHARGES ROOM AND BOARD

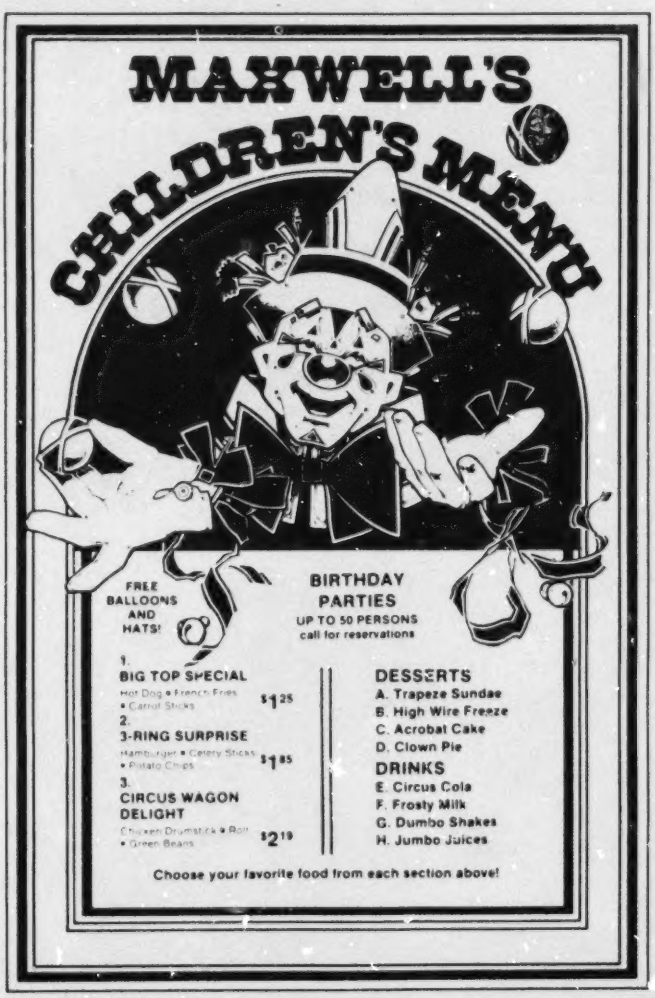
Each of these sayings reminds us that there are very few free goods in this world. Costs are almost always involved when we attempt to satisfy our wants. But, since air can usually be obtained without giving up something of value, it is considered to be a *free* good. Can you identify other free goods?

(SUNLIGHT) (THE MOON AND STARS)

(FRIENDSHIP?) (SAND IN THE SAHARA)

However, we always see and hear advertisements offering supposedly *free* goods: "Buy one, get one free," "Free trial size granola bar inside," "Free toaster for opening an account." Upon close examination, each of these free offers includes direct or indirect costs such as money, time, and opportunity costs.

Examine the following advertisements and identify the supposedly *free* goods or services. Also, identify the costs of the free goods or services and determine who eventually pays each of the costs. Remember that there are often implied opportunity costs. Costs can be hidden or passed along, but they cannot be avoided.



Supposedly free good (BALLOONS AND HATS)

COSTS
(THE RAW MATERIALS, LABOR, MACHINES AND TRANSPORTATION USED TO PRODUCE THE BALLOONS AND HATS, WHICH COULD PRODUCE OTHER PRODUCTS.)

WHO PAYS
(CUSTOMERS AT THE RESTAURANT—AND PERHAPS EVERYONE WHO EATS THERE AS WELL AS THOSE WHO ORDER FROM THE CHILDREN'S MENU.)

100

Free pair Adidas
to First Place!
Open to All Who
Have Running Experience
Course consists of a 23-mile run
through the streets of the downtown area
SAT., JULY 9, 8 AM
CASH PRIZES IN MEN'S & WOMEN'S CATEGORIES
ENTRY FEE: $12 PER PERSON PAYABLE DAY OF RUN
SPONSORED BY RIVER CITY CHAMBER OF COMMERCE
RIVER CITY RUN'83

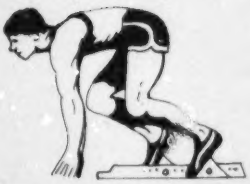
Supposedly free good (SHOES)

COSTS	WHO PAYS
(COST OF SHOES, PARTICIPATING IN THE RACE, TIME – THE OPPORTUNITY COST OF NOT HAVING THESE RESOURCES AVAILABLE TO PRODUCE OTHER GOODS & SERVICES.)	(THE COSTS ARE PAID BY THOSE WHO SPONSOR AND ENTER THE RACE.)

Supposedly free good ("FREE" GIFT)

COSTS	WHO PAYS
(ALL RESOURCES USED TO PRODUCE THE "FREE GIFT" – THE OPPORTUNITY COST OF THOSE RESOURCES.)	(CUSTOMERS AT THE STORE PAY THROUGH HIGHER PRICES ON OTHER ITEMS WHICH COVER THE COSTS LISTED HERE.)

WHAT A CHOICE!



Jim Cooper has a tough problem. Jim is a senior at Rocky Mountain High, and Coach Hamilton, the track coach, is trying to talk Jim into going out for track again this year. Last year Jim was on the team and he did fairly well in both the 110 and 220 hurdles. But Jim is 3 inches taller and much stronger than he was at this time last year. Coach Hamilton told Jim that the team will have a part-time assistant coach who ran the hurdles in the Olympics a few years ago. The coach told him "You have the talent to be really good, Jim, and with Coach Baxter's help you might even improve enough to be awarded a college scholarship."

The problem is that for the past several months Jim has been very busy in the afternoons and evenings. He has been working 15 hours a week as a stock clerk at a large grocery store earning $4.00 per hour. Also, he has been spending about 2 evenings and one week-end afternoon per week with Sherry Simpson playing cards, video games, records, etc. Most of the money Jim has earned has been used to buy and operate a used car he bought from his uncle two months ago, but some of his earnings have been saved for his college expenses and some money has been used to take Sherry to some movies and concerts.

If Jim goes out for track, he will have to quit his job for 16 weeks, and he will only be able to see Sherry one afternoon a week.

List all of the costs Jim must pay if he goes out for track:

Monetary Costs	Nonmonetary Costs
(REDUCED INCOME. STUDENTS MAY SUGGEST OTHERS.)	(REDUCED LEISURE TIME, DISPLEASING BOSS, MISSING SHERRY, ETC.)

What is the total cost to Jim of going out for track? (THE SUM OF THE COSTS LISTED ABOVE—REDUCED FINANCIAL INCOME OF $960.00 PLUS THE VALUE OF THE TIME HE WILL NOT BE ABLE TO SPEND WITH SHERRY.)

Describe a decision-making situation you have faced that included weighing both monetary and nonmonetary costs.

If you were Jim, what do you think you would do? What are the major benefits and major costs of his alternatives?

Major Benefits: (POSSIBILITY OF SCHOLARSHIP IF HE GOES OUT FOR TRACK. ENJOYMENT FROM COMPETING. CURRENT INCOME & LEISURE TIME IF HE DOES NOT.)

Major Costs: (LOSES CHANCE FOR SCHOLARSHIP IF HE DOESN'T GO OUT: REDUCED INCOME & LEISURE TIME IF HE DOES.)

Conclusion: (What would you do?) (ANSWERS WILL VARY DEPENDING ON STUDENTS' OWN INTERESTS; WILLINGNESS TO ACCEPT RISKS, ETC.)

WHY DO PEOPLE DO THE THINGS THEY DO?

Economics, like all social sciences, tries to explain how people behave. Specifically, economics tries to show how people make choices among all the scarce things that are potentially available to them. There are many reasons why people make the choices that they do make, but it is important to remember that people usually make their *own* choices for themselves, and do what is best for themselves as they see it.

Read each of the following paragraphs. After each, tell why you think these people do the things they do.

1. George Robinson works for the Einstein Steel Corporation. Each day George gets up at 6:00 AM, eats breakfast, and goes to work. He works from 7:00 AM to 3:00 PM. George says he can't stand his job because it is dirty and boring.
   Why does George go to work? (INCOME FROM THIS JOB COMPARED TO WORKING CONDITIONS IS APPARENTLY BETTER THAN OTHER JOB OPPORTUNITIES MR. ROBINSON ENJOYS. STEELWORKERS ARE HIGHLY PAID.)

2. Paul Ramirez is a wealthy bank president in southern New Mexico. Each year he gives an anonymous donation of $10,000 to his local church.
   Why does Paul give away money? (GIVING THE DONATION GIVES PAUL SATISFACTION; HIS GIFT IS ALSO SUBSIDIZED, IN PART, BY TAX DEDUCTIONS CURRENTLY ALLOWED AT THE FEDERAL LEVEL AND IN SOME STATES.)

3. Peter Prentis is a volunteer fireman. About twice a week he goes out to fight a fire, sometimes in the middle of the night or during his time off from work. He realizes that his job as a fireman is dangerous.
   Why is Peter a volunteer fireman? (PERHAPS OUT OF SATISFACTION FROM COMMUNITY SERVICE, OR FROM PERSONAL EXCITEMENT, OR BECAUSE HE HOPES THIS SERVICE WILL BE RECOGNIZED BY OTHERS AND HELP HIM "GET AHEAD" IN OTHER WAYS.)

4. Cathy Grant is a mother with two young children. She works as a secretary for Mr. Bell at the telephone company. She likes her job fairly well, but would rather be home when her children come home from school.
   Why does Cathy continue to work? (PAY, FRINGE BENEFITS AND OTHER ECONOMIC INCENTIVES APPARENTLY OUTWEIGH THE ECONOMIC AND NONECONOMIC COSTS OF CATHY'S WORKING.)

Every economic choice people make involves a cost. Can you identify the cost for each of the situations above?

George (DISUTILITY OF WORK, TRAVEL COSTS TO WORK, ETC.)
Paul (REDUCES HIS OWN SPENDING POWER)
Peter (TIME AND RISK, TRAVEL & CLOTHING COSTS)
Cathy (LESS TIME WITH HER FAMILY, TRAVEL COSTS TO WORK)

In each of the above cases, a person does something for a reason. Can you make a generalization about why those people do the things they do? (PEOPLE TRY TO MAXIMIZE THEIR TOTAL SATISFACTION BY GETTING THE MOST PLEASURE FROM ECONOMIC AND NONECONOMIC ACTIVITIES AT THE LEAST POSSIBLE COST.)

Can you think of another example of a person who does something that he or she might rather not do? Does your example fit the generalization you made above?

THE COST OF A CHOICE

Human and non-human resources are scarce relative to all the things we want to produce with them. This activity will help you see that when we decide to use scarce resources to produce one thing, they cannot be used to produce something else. That real cost must always be paid by someone in a world of scarcity, even when resources are used most efficiently.

Make a Choice

Suppose you have one hour of time, 100 sheets of paper, a stapler, and a set of colored pencils. List four ways you could use these resources, with 1 representing your first choice, 2 you next best choice, etc.

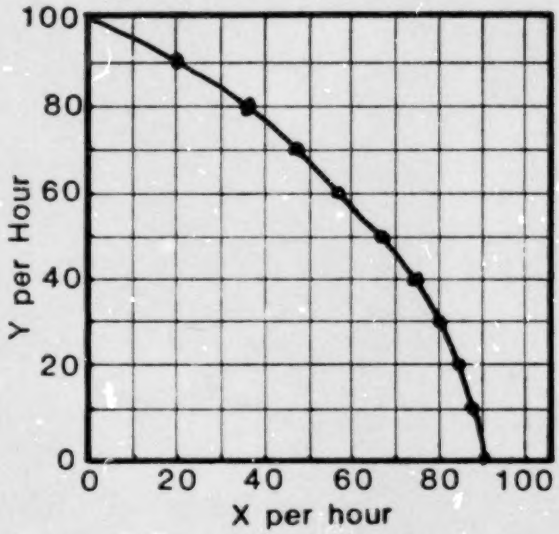
1. _____ 3. _____

2. _____ 4. _____

1. What is the cost of using your resources to make No. 1? (#2. THE COST IS YOUR SECOND CHOICE. YOUR SECOND CHOICE IS YOUR OPPORTUNITY COST.)

2. Label your first choice X. Label your second choice Y. Assume you could produce the amounts of X and Y shown below in one hour. Plot the production possibilities of X and Y on the graph.

Product X	Product Y
90	0
88	10
85	20
80	30
74	40
68	50
57	60
47	70
35	80
20	90
0	100



3. What is the cost of increasing the output of Y from 40 to 50? (6 UNITS OF X MUST BE GIVEN UP. THE COST OF WHATEVER WE CHOOSE IS ALWAYS WHAT ELSE THOSE RESOURCES THAT WENT INTO OUR CHOICE MIGHT HAVE BEEN USED TO PRODUCE.)

4. What is the cost of increasing the output of X from 88 to 90? (10 UNITS OF Y MUST BE GIVEN UP. RESOURCES CAN ALWAYS BE USED TO PRODUCE ALTERNATIVE THINGS. THERE IS ALWAYS AN OPPORTUNITY COST TO THE CHOICES YOU MAKE.)

5. What is the cost of producing only 10 units of X and 10 units of Y? (THIS IS AN INEFFICIENT FORM OF PRODUCTION THAT IS WASTING RESOURCES. IF 10 UNITS OF Y ARE PRODUCED, ENOUGH RESOURCES REMAIN SO THAT 88 UNITS OF X COULD BE PRODUCED. OR, IF IT IS DECIDED TO PRODUCE ONLY 10 UNITS OF X, EFFICIENT PRODUCTION SHOULD PROVIDE ABOUT 95 UNITS OF Y.)

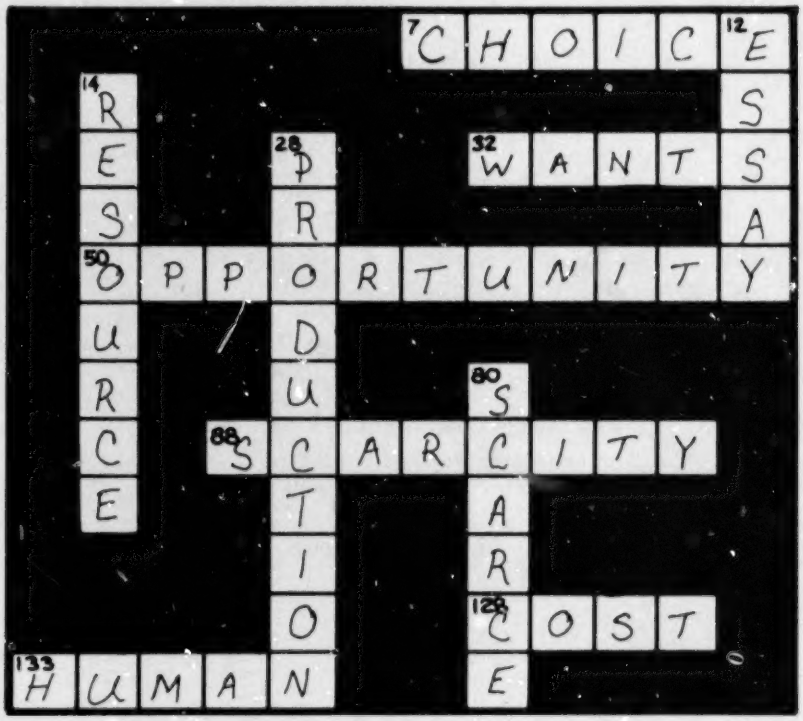
Complete this crossword puzzle to review the terms you have used in this worksheet.

Across

7. Decision
32. Desires
50. Real costs
88. When wants exceed resources
128. Opportunity _ _ _ _
133. A kind of resource

Down

12. One way to use a sheet of paper
14. Human and non-human
28. What resources are used for
80. Resources relative to wants



PLANNING YOUR SENIOR PROM

Your class has been engaged in various fundraising projects during the past several years, and you now have a total of $3,283.46 that you can spend on a big bash—a school dance. You *cannot* spend more than this amount on the dance, but you do not have to spend all of it on the dance. Any part of this money that is not used for the dance can be used for the "senior-class school improvement project" that has been selected by your class.

You have decided that there are three categories of expenditures for the dance: 1) hiring a band; 2) renting a place to hold the dance, and 3) providing for refreshments, decorations, flowers for the Queen of the Ball, etc.

Various committees have investigated the costs of hiring bands, renting facilities, and providing refreshments, and they have provided the following information:

Bands Available for Dance

Cost	
$ 150	The Teeny-Bopper Trio—rather plain, but cheap
500	Grand Punk Railroad—loud, cheap, and dirty
1000	The Jubilation T. Cornpones—good progressive country
1200	Tangerine Flakes—fairly good rock and roll
2000	Fred Zeppelin—very good acid rock
2500	The Bounding Rocks—a touring group from England—good imitators of more famous English groups
3000	Philadelphia Transit Authority (the PTA)—nationally known, 2 gold albums, versatile rock and roll

Places Available for Dance

Cost	
$ 40	School gym
250	American Legion Hall
500	Holiday Inn
750	The Hilton Hotel
1200	The Knob Hill Country Club

Refreshments and Decorations for Dance

Cost	
$ 200	Home Economics classes fix sandwiches and decorations
500	Catered—simple snacks and decorations
1000	Catered—good stuff—fancy snacks and neat decorations
1500	Package deal—fairly good snacks and decorations at dance and after-dance meal at a plush restaurant

Your task now is to decide, first considering only your own preferences, which band to hire, where to hold the dance, and what type of refreshments and decorations to provide. You *must* select one item from each expenditure category.

Band you would hire	Place you would choose	Refreshment package you would choose

List one trade-off you had to make in your own choices—e.g., did you give up some desirable refreshments to hire a more expensive band.

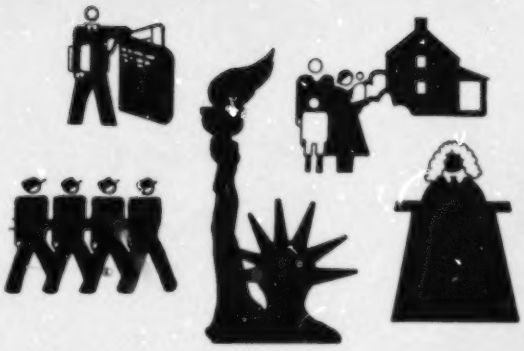
Now, with your classmates, choose by voting on which set of alternatives you would combine for your class prom.

Band class would hire	Place class would choose	Refreshment package class would choose

Was your class able to satisfy everyone's preferences? _____

What trade-offs did you face as a class that you did not face in listing your own preferences? (USUALLY, THE NEED TO COMPROMISE ON SOME ISSUES TO GET MORE OF THE OVERALL PACKAGE YOU WANT.)

OPPORTUNITY OPTIONS: A MATTER OF INDIVIDUAL AND SOCIAL CHOICE



Today our class is meeting to represent the citizens of our society in order to have an important election. The decisions made in this election will have a major impact on the economic future of our nation. Before us are five broad economic goals we would like to achieve. Because resources are limited, however, we can not meet *all* of these goals. Sometimes, in fact, things we do to achieve one goal move us further away from achieving others. Therefore, we must rank these goals in order of their overall importance to us individually and as a class. In order to determine what portion of our scarce resources we will devote to each goal we are going to rank them by voting. We will vote five times. The highest-rated goal in each round will be ranked and removed from the next round of voting. The five goals are:

(A) ECONOMIC FREEDOM: including the freedom of consumers to decide how they will spend their income, freedom of workers to choose their jobs, and individual's freedom to establish a business of their own.

(B) ECONOMIC EFFICIENCY: using the least amount of resources to produce a given output, and producing what consumers want most.

(C) GROWTH: to experience a continuous, long-term growth in the output of goods and services, accompanied by a rise in the standard of living from generation to generation.

(D) ECONOMIC SECURITY: protection against economic risks – including inflation, unemployment, poverty and business failures.

*(E) ECONOMIC JUSTICE: economic fairness in exchange and an equitable distribution of income.

QUESTIONS FOR DISCUSSION AFTER THE ELECTION

1. Why can't our society fully realize all of its goals? (SCARCE RESOURCES FORCE US TO CHOOSE, AND TRADE-OFFS BETWEEN GOALS ARE SOMETIMES NECESSARY.)

2. Could the group rank the choices in the same order that each individual would have? Why or why not? (NO, DIFFERENT PEOPLE HAVE DIFFERENT VALUES.)

3. The cost of more nearly achieving one goal may be giving up a portion of another goal – for example, explain how trying to gain greater security could cost some growth. (RESOURCES USED TO CUSHION US AGAINST HARDSHIPS CAN'T BE USED TO FINANCE INCREASED PRODUCTION.)

4. If our society could reach only its first goal, what would be the opportunity cost of reaching that goal? (THE SECOND GOAL.)

*(THERE IS NO SCIENTIFIC DEFINITION OF ECONOMIC JUSTICE – THE IDEA INEVITABLY STIMULATES MUCH DISCUSSION BY STUDENTS, OR ECONOMISTS FOR THAT MATTER.)

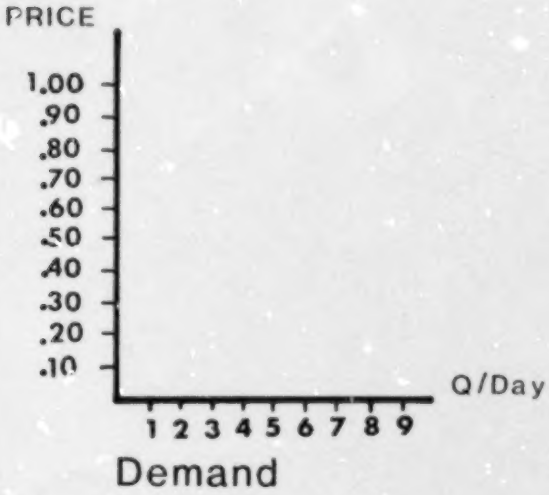
THE DEMAND FOR SOFT DRINKS

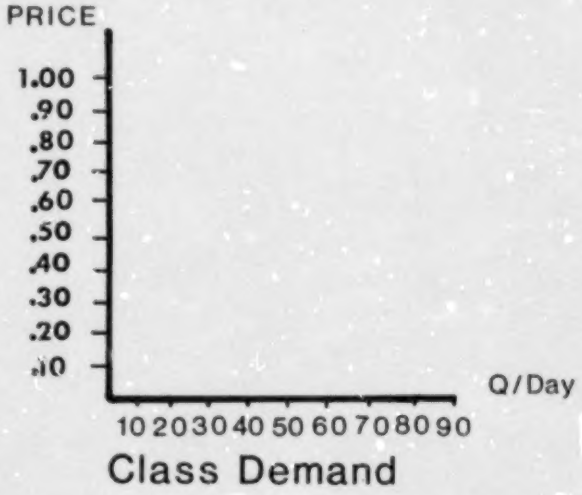
Suppose you haven't been able to buy soft drinks anyplace in your school or to bring them from home, but now your school is considering selling soft drinks to students at lunch period. Part of the money earned will be dedicated to different student groups, such as the school band and chess club. The survey below will provide useful information about market demand to the school administrators.

Indicate below how many soft drinks you would buy each day, on average, at each of the different prices listed in the first column. All soft drinks must be consumed at lunch – you will not be able to take them to class or save them to take home after school.

Price	Number of soft drinks I would buy	# soft drinks class would buy
$1.00	_____	_____
.90	_____	_____
.80	_____	_____
.70	_____	_____
.60	_____	_____
.50	_____	_____
.40	_____	_____
.30	_____	_____
.20	_____	_____
.10	_____	_____

Plot your responses on the left graph (below) and label the line "Demand."





Your teacher will now poll your class to find how many soft drinks would be purchased at each possible price by your class. On the right graph above, plot the results for the whole class. (Remember, you want to know how many soft drinks people will buy, not just how many people will buy some drinks at each price.)

Law of Demand: People buy less of a good or service as price rises, and more of a good or service as price falls.

Questions:

1. Do your graphs follow the "law of demand," as stated above? (AS LONG AS STUDENTS TAKE THE EXERCISE SERIOUSLY AND DON'T MAKE ERRORS IN ARITHMETIC, THEY WILL. IF THE CLASS DOESN'T TAKE THIS SERIOUSLY, TRY DOING THE SAME EXERCISE FOR AN INEXPENSIVE PRODUCT (E.G., DONUTS) ON A ONE-TIME SALE. WARN THE STUDENTS THAT YOU HAVE BROUGHT A QUANTITY OF THE ITEMS TO CLASS AND WILL MAKE THOSE WHO BID AS MUCH OR MORE THAN YOU PAID FOR THE PRODUCT BUY IT. YOU WILL, THEN, SEE A TYPICAL DEMAND CURVE.)

2. Why do you think the "Demand" line on the graph for your class has the shape that it has? (AS THE PRICE FALLS, SOFT DRINKS BECOME MORE AFFORDABLE (AN INCOME EFFECT) AND ARE A "BETTER BUY" RELATIVE TO OTHER SUBSTITUTES.)

3. At very low prices, even though people buy more soft drinks, they don't buy an unlimited number. Why? (EVEN AT LOW PRICES, LIMITED INCOMES CONSTRAIN WHAT PEOPLE WILL BUY. ALSO, PEOPLE USUALLY GET LESS SATISFACTION FROM EACH ADDITIONAL UNIT OF A PRODUCT THEY CONSUME DURING A FIXED PERIOD OF TIME. IN OTHER WORDS, THE FIFTH COKE YOU DRINK AT LUNCH ISN'T LIKELY TO GIVE YOU AS MUCH EXTRA SATISFACTION AS THE FOURTH AND SO ON. THIS IS KNOWN AS THE "LAW OF DIMINISHING MARGINAL UTILITY.")

4. Suppose a repeat of this survey of your class next week yields entirely different results. What factors could shift the entire demand line? (MORE POCKET CASH MIGHT INCREASE DEMAND, A CHANGE IN THE WEATHER COULD AFFECT STUDENT DESIRE FOR SOFT DRINKS, OR A CHANGE IN CLASS ATTENDANCE COULD ALTER THE NUMBER OF POTENTIAL BUYERS.)

5. What would happen to the demand line if your teacher provided free Kool-Aid at lunch for your class? Would there be any demand for soft drinks? Explain. (THE DEMAND LINE WOULD SHIFT LEFT AND DOWN – THERE WOULD BE LESS DEMAND. BUT THERE WOULD STILL BE SOME PEOPLE WHO DON'T CONSIDER "KOOL-AID" A GOOD SUBSTITUTE FOR SOFT DRINKS.)

ECONOMIC SQUARES

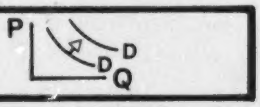
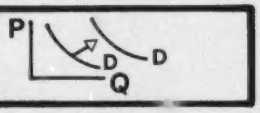
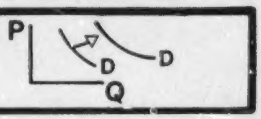
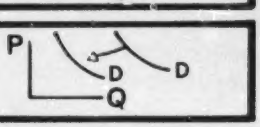
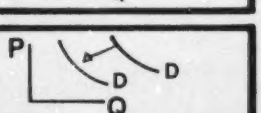
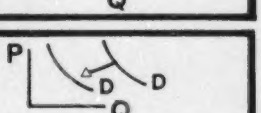
At age one, it's bubble gum.
At ten, it's Pac Man games.
At twenty, it's cars;
At thirty, it's bars.
And at forty, we'd buy more brains.

****

The demand for gum and games and other things we buy changes for the following reasons:

1. changes in individual tastes
2. changes in the price of complementary items
3. changes in the price of a substitute item (for example hot dogs or hamburgers)
4. changes in income
5. changes in population
6. expectations of future price changes

Review the first example below (peanut butter), then fill in the empty square in each of the other sequences. (Work across the page, from left to right.)

	Item	Event	Reason for change in demand	Use an arrow to show the direction of change
	Peanut butter	Scientists discover that eating peanut butter cures acne.	Change in tastes – young people buy more peanut butter because they see it as a cure.	
1.	Kool-aid	The price of soft drinks goes up to $2.50	(THE PRICE OF A CLOSE SUBSTITUTE GOOD INCREASES.)	
2.	Non-designer jeans	(DESIGNER JEANS GO OUT OF STYLE.)	Change in tastes.	
3.	Baby food	Fewer babies are born.	CHANGE IN POPULATION; FEWER BABIES ARE BEING BORN.	
4.	Video games	Your allowance is cut in half.	CHANGE IN INCOME.	
5.	(RAZORS)	Material used to manufacture razor *blades* goes up in price.	Change in the price of complementary goods.	

1. A CHANGE IN THE PRICE OF A SUBSTITUTE FOR KOOL-AID WILL AFFECT THE DEMAND FOR KOOL-AID. IF SOFT DRINKS GO UP IN PRICE, PEOPLE WILL SWITCH TO SOMETHING WHICH COSTS LESS.
2. THE DEMAND FOR NON-DESIGNER JEANS WILL INCREASE IF TASTES CHANGE – THAT IS, IF PEOPLE NO LONGER CARE WHOSE NAME IS EMBROIDERED ON THEIR JEANS.
3. THE DEMAND FOR BABY FOOD WILL DECREASE IF THE CHANGE IN POPULATION IS DUE TO A LOWER BIRTH RATE.
4. THE DEMAND FOR VIDEO GAMES WILL DECREASE IF THE INCOME OF YOUNG PEOPLE CHANGES DUE TO ALLOWANCES BEING CUT IN HALF.
5. THE DEMAND FOR RAZORS WILL DECREASE IF THE PRICE OF BLADES USED IN THE RAZORS INCREASES.

GOOD NEWS/BAD NEWS

Demand for certain goods or services is less responsive to changes in price than for other goods or services. For example, you would probably be willing to buy about the same amount of insulin if you were diabetic, even after several big price increases. But, you almost certainly won't continue to buy the same amount of record albums and most other products following several large price increases. Let's see if we can find a demand curve for some good that isn't very responsive to price changes in the class.

Suppose your teacher announced to the class: "Today we will be taking a standardized achievement test. *All* students *must* take this test—no one can receive a passing grade in this course without taking the test."

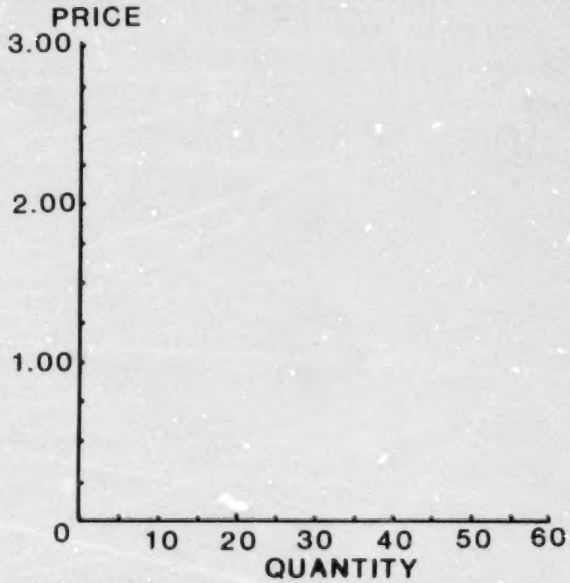
The teacher continues, "Now, I have some goods news and some bad news for you. First the good news! You won't have to use your own paper to take the test. This test can only be taken on the official answer sheet supplied by the 'Cribsheet Testing Company,' the publisher of the test. Now the bad news! Due to a cutback in the school budget, you will be required to buy your own answer sheets. And there may not be enough answer sheets for everyone in the class. Of course, you must realize that the top price you will be able to pay is limited by the amount of money you brought to class today, or the amount you can borrow from your friends. The school can't afford to give you a loan, so you must pay today."

"Before I announce the price of these answer sheets, I would like to determine your own demand for answer sheets on the table below, and have you graph the quantity demanded by the entire class on this work sheet. Now, how many of you will be willing to buy answer sheets at the following prices?

ANSWER SHEET DEMAND SCHEDULE

Price	Quantity
.25	_____
.50	_____
.75	_____
1.00	_____
1.25	_____
1.50	_____
1.75	_____
2.00	_____
2.25	_____
2.50	_____
2.75	_____
3.00	_____

GRAPH OF THE CLASS' DEMAND SCHEDULE



(YOU MAY WANT TO CHECK EVEN HIGHER PRICES UNTIL NO ONE CAN AFFORD THE ANSWER SHEET.)

QUESTIONS:

1) What is unusual about the shape of the line on the graph? (IT IS NEARLY VERTICAL AT THE LOWER PRICES BUT BREAKS OFF SHARPLY AT HIGHER PRICES.)

2) What might be some of the reasons students have for dropping out of the market at the higher price levels? (MANY WILL BE PRICED OUT OF THE MARKET, BUT TO SOME THE FINANCIAL COST OF THE ANSWER SHEETS MAY BECOME GREATER THAN THE COST OF NOT TAKING THE TEST (I.E., FAILING).

3) Did changes in the price of answer sheets affect the quantity demanded by students? (IT DIDN'T MUCH AT THE LOWER PRICES, BUT IT DID AT THE HIGHER PRICES. A KEY POINT IS, NO MATTER HOW IMPORTANT A PRODUCT IS TO US, AT *SOME* PRICE THE AMOUNT PEOPLE BUY DOES BECOME SENSITIVE TO PRICE CHANGES.

4) When changes in price result in little or no change in the quantity demanded of a product, we describe the demand for that product as being inelastic. How would you describe the demand for answer sheets in this class? (IT WOULD BE INELASTIC AT LOWER PRICES.)

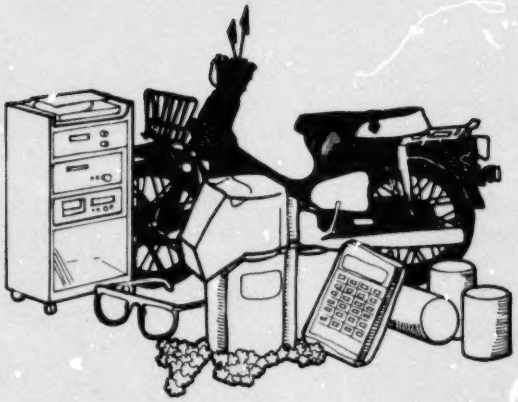
5) What might be some other goods or services that might have inelastic demand at relatively low prices? (SALT, CIGARETTES, MEDICAL AND DENTAL CARE, ETC.)

6) What goods or services seem very responsive to relatively small changes in price? (MANY TYPES OF BORROWING AND FINANCIAL SECURITIES, CARS, TOYS, FAST FOODS, ETC. ANYTHING WITH MANY CLOSE SUBSTITUTES, E.G.. A PARTICULAR BRAND OF BREAKFAST CEREAL, WILL BE VERY SENSITIVE TO PRICE CHARGES.)

****

TEACHERS MAY FIND IT USEFUL AND MORE STIMULATING TO REPEAT THIS EXERCISE FOR SOME "LESS" IMPORTANT PRODUCTS (E.G., CANDY BARS, PENCILS, ETC.) AFTER COMPLETING THE "SALE" OF TEST ANSWER SHEETS, AND THEN COMPARING THE DEMAND SCHEDULES AND CURVES.

DECISION MAKING: TOO MUCH INFORMATION



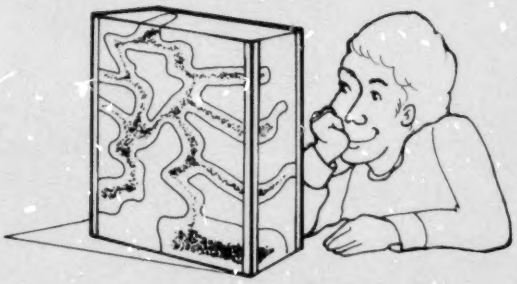
If you wanted to be more certain that you would be satisfied with the following products and the price you pay for them, which of the sources listed below would you usually check out for information about price, quality, features, and warranty? (Place an "X" in the appropriate column.) (SOME STUDENTS WILL BE SATISFIED WITH LITTLE OR NO INFORMATION ON MOST PRODUCTS. OTHERS WILL CHECK OUT EVEN THE INEXPENSIVE PRODUCTS IN GREAT DETAIL. MOST SHOULD WANT MORE INFORMATION FOR THE RELATIVELY EXPENSIVE PRODUCTS AND FOR PRODUCTS WHICH ARE MORE TECHNICAL AND LESS FAMILIAR TO THEM.)

Product	Apprx. price per unit	Newspaper	Shopping	Salesperson	Friends	CONSUMER REPORT	Trade Guide	Owner's Manual	None
Popcorn popper	$12.99								
Soft drinks	$0.50								
Eyeglasses/ contacts	$125.00								
Calculator	$8.00								
Stereo unit	$1,000.00								
Moped	$350.00								

1. Which source of information is most likely to involve higher costs? Why? (IN ADDITION TO PURCHASE COSTS FOR SOME OF THE REFERENCE MATERIALS, REMEMBER TO INCLUDE THE VALUE OF THE TIME, EFFORT AND OTHER EXPENSE THAT MAY BE INVOLVED IN GETTING INFORMATION FROM EACH OF THESE SOURCES, AS WELL AS THE CHANCE THAT YOU MAY RECEIVE INACCURATE INFORMATION FROM SOME OF THE SOURCES.)

2. Would you spend more time and money to get information on some products than for others? Why? (AGAIN, MOST WILL SPEND MORE ON INFORMATION FOR EXPENSIVE AND TECHNICAL PRODUCTS.)

WHY ANT FARMS?



When Steve Mann went into the ant farm business, he took a big chance—he might have *lost* the money he and others invested in the company. Why are people such as Steve and the other stockholders willing to take risks? Because they expect to be repaid for assuming the risks. Just as persons who provide labor services must be paid wages (and people who provide land and natural resources must be paid rent and people who provide funds for investment must be paid interest) people who take risks in organizing production activities must be paid *profits* in order to induce them to undertake these risks.

But people also take risks when they select a career or take a job. A person might decide on a career in petroleum engineering and then find, after studying for five years in college, that the demand for petroleum engineers has decreased greatly because of some technological advances in locating and obtaining crude oil or substitutes for oil.

All jobs involve *some* risks—wage levels may increase slowly, unemployment may be frequent, workers may be replaced by more productive workers (or a machine), co-workers may be unpleasant, etc.

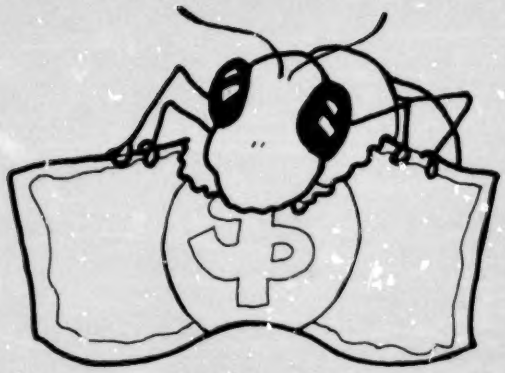
In general, jobs which offer the change to achieve *spectacular* success—fame and fortune—offer a *much* greater chance of failure. And, in general, jobs which provide relative security of employment and wage levels offer little chance of spectacular success.

Using the 1-10 scale below, how would you judge the "riskiness" of the following occupations:

some chance of spectacular success, but very large chance of failure									small chance of spectacular success, but relatively small chance of failure
10	9	8	7	6	5	4	3	2	1

_____Professional football player
_____Rock music "star"
_____High school teacher
_____Police officer
_____Secretary
_____Physician
_____Attorney
_____College professor
_____Automobile mechanic

Now, how you would rate the *overall* desirability of the ten occupations on a scale of one to ten with 10 = most desirable. The riskiness of a job is an important consideration in career choice, but there are other important considerations too. People must have the ability and training necessary for various jobs. Even if you were willing to play shortstop for the New York Yankees for *no pay*, you wouldn't get the job. There are also important nonwage aspects of jobs. Some people take jobs that offer less pay or other less desirable working conditions than in jobs they are capable of doing simply because their jobs provide them greater personal satisfaction.



TOO MUCH PROFIT

$20,000 profits sounds pretty good for a beginning businessman in the ant farm industry. It might be, but did Steve forget to consider a cost? (Hint: Think of Steve's other opportunity for employment.)

Study the chart listed below and calculate the expenses, revenues and profit for Steve's ant farm business. The items listed as expenses are called *explicit costs* or actual dollar costs.

YEAR-END REPORT: S/M ANT FARM BUSINESS

Expenses		Revenues	Profit
Labor	$106,230.00		
Materials	$ 52,680.00	38,520 ant farms sold	Revenues
Building; Office	$ 25,410.00	@ $6.00 per farm	minus
Equipment; Supplies	$ 18,320.00		Expenses
Advertising	$ 4,140.00		
Miscellaneous	$ 1,860.00		
TOTAL	($208,640.00)	($231,120.00)	($22,480.00)

Next you should complete the chart below. Note the last item in the expense column. According to the film, Steve did not pay himself a salary. He had been working at his Uncle Lester's gas station during the year before he started his ant farm business. Steve should have considered his salary at the gas station as a cost of doing business. He could have earned that salary without facing the *risk* of losing money, which he accepted when he opened the ant farm business. Calculate this cost by assuming that Steven earned $4.00/hour, working 40 hours/week, for the year prior to going into the ant farm business. Now calculate the *real* total profit.

YEAR-END REPORT: S/M ANT FARM BUSINESS

Expenses		Revenues	Profit
Labor	$106,230.00		
Materials	$ 52,680.00	38,520 ant farms sold	Revenues
Building; Office	$ 25,410.00	@ $6.00 per farm	minus
Equipment; Supplies	$ 18,320.00		Expenses
Advertising	$ 4,140.00		
Miscellaneous	$ 1,860.00		
Salary/gas station	$ (8,320.00)		
TOTAL	($216,960.00)	($231,120.00)	($14,160.00)

Since Steve did not pay himself a salary, he should have included his salary at the gas station as an *implicit cost* of the ant farm business. Costs which are difficult to measure objectively are usually not reported by accountants on financial statements. Therefore, such statements often overstate the real amount of profit earned by a business.

When Steve realizes he can earn $20,000 a year working for another employer, what is his new opportunity cost of doing business? In the next accounting period he should deduct $20,000 from revenues as an implicit cost for his own services to the business. Unless his ant farm business does better next year, it will really earn profits of only $2,480.00. If Steve gets an offer of $25,000.00 working for someone else, what will the profits be for the ant farm business? (A LOSS OF $2,520.) _____

Should Steve take the job at a salary of $25,000? _____

(STEVE WOULD CLEARLY BE BETTER OFF TAKING THE JOB WITH ANOTHER EMPLOYER UNLESS HE GETS A LOT OF SATISFACTION FROM BEING HIS OWN BOSS AND RUNNING HIS OWN COMPANY. OR UNLESS HE BELIEVES THERE IS A REASONABLE CHANCE THAT HIS OWN COMPANY WILL BE MORE PROFITABLE IN THE FUTURE.)

BUSINESS PERSON OF THE YEAR

Suppose you read the following story in your local newspaper:

LOCAL ENTREPRENEUR WINS AWARD

Steve Mann, the major owner and manager of an ant farm business was recognized at a Chamber of Commerce luncheon yesterday as "outstanding young business-person." Mr. Mann's company reported a profit of 25% of the amount Steven and other owners invested during the company's first year of operation. Mr. Frank Ferguson, president of the local Chamber noted "It is most unusual for a new business to actually earn a profit in its first year."

Do you think that Steve's company will continue to earn profits of this magnitude? Why or why not?

YES!

Reasons why profits will remain high:

(IT MAY BE EASIER FOR THE COMPANY, NOW ESTABLISHED, TO AVOID MISTAKES AND CONTINUE TO BUILD ITS BUSINESS.)

NO!

Reasons why profits will decline:

(A HIGH PROFIT RATE WILL ATTRACT COMPETITION, WHICH WILL SERVE TO DRIVE PRICES AND PROFITS DOWN – MUCH TO THE DELIGHT OF CUSTOMERS!)

Examine these headlines that you might see during the next few years. What statement is being made or implied about profits in each of these headlines? Can you identify specific reasons that might explain the events reported in each of these headlines?

1. Television Networks Report Profit Declines
2. Motel Industry May Have Peaked
3. Hobby Industries Expanding
4. Banking At Home By Computer Becoming Widespread
5. Birth Rates Remain Low

1. (INCREASED COMPETITION FROM CABLEVISION, MOVIES, BOOKS, ETC. MAY REDUCE THE NUMBER OF VIEWERS.)
2. (HIGHER COST OF AUTO TRAVEL, REDUCED BUSINESS DEMAND FOR TRAVEL DUE TO LESS EXPENSIVE TELECOMMUNICATIONS & INFORMATION SYSTEMS, ETC.)
3. (DUE IN PART TO INCREASE IN WEALTH AND LEISURE TIME, AND TO RISE OF "DO-IT-YOURSELF" REPAIRS AND OTHER ACTIVITIES, CHANGES IN RELATIVE PRICES OF HOBBIES VS. OTHER LEISURE ACTIVITIES.)
4. (COMPUTERS ARE BECOMING LESS EXPENSIVE; MORE PEOPLE KNOW HOW TO USE COMPUTERS; SAVE GASOLINE & TIME, ETC.)
5. (HAVING CHILDREN TODAY IS VERY EXPENSIVE, WHEREAS IN THE PAST CHILDREN OFTEN WORKED TO CONTRIBUTE TO FAMILY INCOME.)

ECONOMIES OF SCALE

When Juan Perez wanted to buy 3000 ant farms to be delivered in 3 weeks, Steve could do it only if he raised the price of his ant farms from $6 to $9. But, what if Steve (and Lenny) had *more time* to adjust to a higher level of output?

Production requires a combination of *fixed* resources (which cannot be increased or decreased in a very short period of time) and variable resources. At any given time, fixed resources are things such as factories and machines while variable resources include such factors as workers and raw materials.

What if, instead of having to pay overtime wages and putting a strain on their existing equipment, Steve and Lenny had enough time to enlarge their factory and purchase additional machinery? They might find that their costs per ant farm would be *lower*. This is because of *economies of scale*.

For *some* products, large scale production makes possible various kinds of efficiencies in production, such as factories and assembly lines. But it takes *time* to adjust to the most efficient production level *and* business firms have to be able to *sell* the additional products produced. It would not have helped Steve to double his capacity to 2000 ant farms per week if he can sell only 1000.

While there are some definite advantages of large scale production, there are also some cases in which a smaller scale of production might be preferable.

Consider the following list of goods and services, and list what you think are the most important advantages of producing these goods and services in large-scale and small-scale production processes.

	Advantages of Large-Scale Production	Advantages of Small-Scale Production
passenger automobiles	(INCREASED CAPACITY, LOWER COSTS)	(CUSTOMIZED CARS & CRAFTSMANSHIP)
hamburgers	(CONSISTENT QUALITY, LOWER PRICES)	(POTENTIAL FOR FRESH INGREDIENTS, HIGHER QUALITY)
haircuts	(LOWER COSTS AND LESS TIME)	(INDIVIDUALIZED HIARCUTS AND ATTENTION)
racing cars	(PRODUCE MORE CARS, CHEAPER)	(INNOVATION AND INDIVIDUALITY)
movie theaters	(HOLDS COSTS DOWN, FILMS AIMED AT LARGE AUDIENCES)	(MAY SHOW BROADER RANGE OF MOVIES)
posters	(PRODUCE MORE AT LOWER COSTS)	(GET DIFFERENT POSERS THAN EVERYONE ELSE)
grocery stores	(CONVENIENCE IN # OF ITEMS OFFERED FOR SALE)	(CONVENIENCE IN HOURS OF OPERATION, SHORT LINES)
brain surgery	(LOWER COSTS, IF PRACTICABLE)	(INDIVIDUAL TREATMENT)

(THESE ARE REPRESENTATIVE ANSWERS – STUDENTS WILL SUGGEST OTHERS. THE POINT IS THERE ARE SOME AREAS WHERE MASS PRODUCTION STILL DOESN'T WORK, AND OTHERS WHERE IT DOES WHERE *SOME* PRODUCTS ARE STILL LARGELY HANDCRAFTED, E.G., ROLLS ROYCES.)

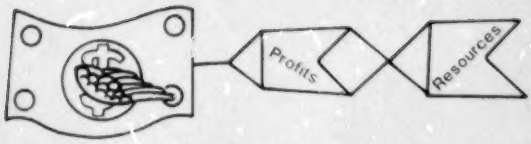
WHO IS MY COMPETITOR?

In the film "Supply" Steve said that he had a lot of competition, even though there were only seven other ant farm producers. In fact, Steve faces competition from the other ant farm industries and from a number of leisure time industries. Consumers can spend their dollars on a variety of alternative hobbies—gardening, going to movies, building model airplanes, or maintaining an ant farm, for example. They might even choose to spend no money for leisure time activities. It would be impossible to identify all of Steve's competitors because there are so many rivals for scarce consumer dollars, and individual consumers may see very different products competing with the ant farm.

Consider the following situation and identify the primary economic competitors for consumers' transportation dollars:

WHO ARE THE COMPETITORS OF GENERAL MOTORS?

1. U.S. auto producers:
   (FORD)
   (CHRYSLER)
   (AMERICAN MOTORS)
2. Foreign auto producers:
   (TOYOTA)
   (DATSUN)
   (VOLKSWAGEN)
   (VOLVO, ETC.)
3. Alternative forms of transportation:
   (AIRPLANES)
   (BUSES)
   (CABS)
   (BICYCLES, ETC.)
4. Alternatives to spending dollars for any form of transporation:
   (LIVE CLOSER TO WORK & SHOPPING)
   (PAY OTHERS TO BRING THINGS TO YOU)
5. Is the auto industry in the United States a monopoly? Explain:
   (NO! COMPETITION INCLUDES ALL OF THOSE OTHER LISTED ABOVE.)



THE ROLE OF PROFITS

When Steve is told "There go your profits" at his stockholders' meeting, he and most of his stockholders were confused. Well, sometimes profits can be rather confusing. But that scene makes a very important point—that when we consider how much profit a firm is making, we have to be sure that we take into consideration the income that *could have been* earned with the resouces used.

One way to look at this and get a good understanding of the important role profits play in the American economy is to recognize that there are two kinds of profit.

One kind can be called "normal" profit and actually should be considered as a part of the cost of a business. Normal profit is the minimum return that entrepreneurs must receive to be willing to continue to operate a particular business. It is approximately equal to what could be earned in other lines of activity that are about as risky.

Profits greater than normal profits are called "excess" profits. If profits are greater than normal in some industry, this is a signal to businesses to expand production in that area. If profits in an industry are *below* the level of normal profits, entrepreneurs will shift resources from this industry to greater profit-making opportunities. Therefore, competition will, over a period of time, leave profits at about the same level in all industries. Of course, it is necessary to observe profit levels over a period of several years to see this resource-shifting function of profits; and riskier industries will usually average slightly higher returns to make up for years when low profits, or even losses, are experienced.

It is impossible to identify the precise level of normal profits, but a good approximation can be obtained by considering the rate of return on virtually risk-free savings accounts. If investors can receive 8-12% interest with no risk, then it is reasonable to assume that "normal profit" should be at least one or two points above this. Another estimate can be made by looking at the average rate of profit for most American firms. The following table shows that this average for America's largest firms was 14.4% in 1980 and 13.8% in 1981.

Average Rate of Profit for Large Firms
(Return on Stockholders' Equity)

	1980	1981
500 largest manufacturing firms	14.4 %	13.8 %
Tobacco Industry	19.8	19.5
Petroleum Refining	19.4	16.4
Aerospace	16.2	15.0
Office Equipment	15.1	13.3
Musical Instruments, Toys, Sporting Goods	12.6	9.2
Rubber and Plastic Products	5.0	10.4
Motor Vehicles	8.1	7.6
Rates on "risk-free" 90-day Treasury Bills	11.43	14.03

The table also shows rates of profits for several industries for these two years. Consider these rates of return and see if you know of any specific reasons for the rates indicated.

For example, oil refining profits rose during the Arab oil embargoes of 1978 and the Iranian Crisis of 1979, but fell again in 1981. Why? (OIL PRICES FELL, AND SINCE REFINERS HOLD INVENTORIES THEY LOST MONEY AS THE PRICE FELL.)

Why do you think overall levels of business profits fell from 1980 to 1981? (1981 WAS A YEAR OF SHARP RECESSION IN THE NATIONAL ECONOMY, AND MANY INDUSTRIES WERE ESPECIALLY SENSITIVE TO NATIONAL ECONOMIC CONDITIONS.)

Why do you think the tobacco industry profit rate did not fall as much as most other industries in 1981? (PURCHASERS OF TOBACCO ARE TYPICALLY NOT SENSITIVE TO ONE OR TWO YEAR CHANGES IN THE NATIONAL ECONOMY – PEOPLE BUY ABOUT THE SAME NUMBER OF CIGARETTES, CIGARS, ETC.)

How do investors respond to changing profit rates in different industries? (MORE RESOURCES ARE DIRECTED TO INDUSTRIES WITH RISING PROFIT RATES; FEWER RESOURCES ARE USED BY INDUSTRIES WITH FALLING PROFITS.)

MEASURING PROFITS

The American economy is sometimes called the "profit system," because profits are so important in directing scarce resources. When more people want a product, rising prices and profits send out strong signals to businesses to produce more of their product and relatively fewer units of other products. Each year many corporations report their annual profits and profit rates in publications such as *Fortune* and *Business Week*.

There are two commonly used methods for computing profit rates. One method is to compute profits as a percent of sales.

Method #1

$$\text{Profit Rate} = \frac{\$ \text{ of Profits}}{\$ \text{ of Sales}}$$

Compute the profit rate for Steve's Ant Farm using this method.
Sales in dollars $312,000.
Profits in dollars $20,000.
What is the profit rate using the profits as a percentage of sales method? (6.4)

Another method for computing profit rates is to calculate profits as a percent of investment.

Method #2

$$\text{Profit Rate} = \frac{\$ \text{ of profit}}{\$ \text{ of investment}}$$

Compute the profit rate for Steve's Ant Farm using the method above.
Investment in dollars $100,000.
Profits in dollars $20,000.
What is the profit rate using profits as a percent of investment method? (20%)

1) While both of these numbers measure profits in some sense, are they different in any important ways? (Hint: What would cause the two measures to rise or fall? Could some things change one measure but not the other?) (THE TWO MEASURES SHOW VERY DIFFERENT THINGS—NOTE THAT THE DENOMINATORS ARE DIFFERENT. PROFITS AS A RETURN ON SALES GIVES INFORMATION ON "MARGINS" OR SALES MARKUPS ASSOCIATED WITH TURNOVER OF INVENTORIES. THIS MEASURE VARIES WIDELY FROM INDUSTRY TO INDUSTRY, AND DOES NOT FOCUS ON THE GENERAL ECONOMIC FUNCTION OF PROFITS ACROSS ALL INDUSTRIES. FOR PROFIT AS A RETURN ON INVESTMENT (OR STOCKHOLDER'S EQUITY) SEE BELOW, QUESTION #3.)

2) If you were a business leader, why might you choose to use the first method as a way of reporting profit rates to the public? (THIS MEASURE IS USUALLY MUCH LOWER, PERHAPS SUGGESTING TO CUSTOMERS THAT PROFIT MARGINS ARE LOW. THE MEASURE IS USEFUL TO COMPARE FIRMS IN THE SAME INDUSTRY—I.E., CLOSE COMPETITORS).

3) Economists use method #2 when reporting profit rates. Why do you think they prefer this method? (THIS METHOD FOCUSES ON THE ROLE OF PROFITS AS A RETURN FOR TAKING RISKS, AND WILL SHOW, OVER TIME, FIRMS MOVING RESOURCES INTO AREAS THAT EXPERIENCE HIGHER THAN AVERAGE RETURNS. ECONOMISTS ARE MORE INTERESTED IN HOW AND WHY RESOURCES ARE SHIFTED TO DIFFERENT USES IN THE ECONOMY THAN THEY ARE IN THE LEVEL OF MARKUP IN DIFFERENT KINDS OF PRODUCTS.)

If Steve's Ant Farm were listed on the major stock exchanges, it would probably be included among the Leisure Time industries. This category includes such firms as AMF, Disney Productions, and Polaroid.

Listed below are the recent annual profit rates for several Leisure Time Industries. These rates were computed by using the profits as a percent of investment method.

Huffy	15.0%
Ideal Toy	27.0%
Mattel	11.5%
Milton Bradley	19.5%

How does the profit rate for Steve's Ant Farm compare to each of these four firms?

Huffy	(HIGHER)
Ideal Toy	(MUCH HIGHER)
Mattel	(HIGHER)
Milton Bradley	(HIGHER)

The average profit rate for all Leisure Time Industries was 16.4%. How does the profit rate for Steve's Ant Farm compare with the average rate for Leisure Time Industries?
(SOMEWHAT HIGHER)

What factors might explain the profit rate for Steve's ant farm?

1. (FAD ITEM)
2. (NEW PRODUCT WITH FEW CLOSE COMPETITORS)
3. (EFFICIENT OPERATION DUE TO CLOSE SUPERVISION BY "ENTREPRENEUR," ETC.)

What might other Leisure Time Industries do as a result of the profit rate for Steve's Ant Farm? (START MAKING ANT FARMS AND/OR OFFER STEVE A JOB TO CAPITALIZE ON HIS MANAGERIAL SKILLS.)

What impact could the actions of other Leisure Time Industries have on the profit rate for Steve's Ant Farm? (If MORE COMPANIES BEGIN MAKING ANT FARMS, THE INCREASED COMPETITION WILL BRING HIS PROFITS DOWN, TOWARD THE INDUSTRY AVERAGE.)

PEA VINE CORNER vs. PIGGLY WIGGLY

Prices react to the pressure of costs and competition. Sometimes it is difficult to recognize different types of competition. Direct competition on the basis of lower prices is easy to spot. Other forms of competition are sometimes harder to recognize. Consider the following example.

In Ms. Peach's social studies class in a suburban Atlanta public school, the subject of grocery prices was being discussed. A new student, Dalton Calhoun, mentioned he had noticed that the spacious new Piggly-Wiggly supermarket, where his mother now shopped, seemed to have lower prices than Mr. Midas' store, the only grocery back in Pea Vine Corners where Dalton used to live. Dalton exclaimed, "It just isn't fair! Mr. Midas is charging those high prices to the people of Pea Vine Corners just because he doesn't have any competition."

Hearing this Ms. Peach assigned Dalton the project of conducting a price survey at Mr. Midas store during his spring break visit to Pea Vine Corners. Ms. Peach also prepared a similar survey for Scarlet Butler, Dalton's girlfriend, to be taken at the Piggly-Wiggly. The results of the two surveys are shown below.

		PEA VINE CORNERS	PIGGLY-WIGGLY
1.	Milk, 2%, gal.	$1.89	$1.89
2.	"Captain Munch" cereal, 24 oz.	1.79	1.49
3.	Ground chuck, 1 lb.	1.99	1.99
4.	"Splash" laundry powder, 48 oz.	2.39	2.19
5.	"Dough-Boy" yellow cake mix	1.19	.99
6.	Peaches, fresh, 1 lb.	.69	.79
7.	Eggs, medium, 1 doz.	.79	.89
8.	"Major Mills" flour, 5 lb.	1.09	.89
9.	"Magenta Midget" canned green beans, 12 oz.	.69	.49
10.	"Swifty Franks," all beef, 1 lb.	2.09	1.89
11.	Distance to next grocery?	20 mi.	2 blocks
12.	Average distance from supplier's warehouse to the stores?	30 mi.	3 mi.
13.	Indirect competition?	Farmers/Gardens	Gardens (a few)
14.	Average time of non-perishable goods on shelves?	3 mo.	7 days

QUESTIONS:

1) What was the total cost of shopping for groceries at the two stores (PEA VINE CORNERS $14.60; PIGGLY-WIGGLY $13.50).

2) Was Piggly-Wiggly lower on the price of all items? (NO.)

3) On what kinds of items did Mr. Midas' store offer lower or equal prices? (FRESH PRODUCE AND FARM PRODUCTS.)

4) Why do you think Mr. Midas' store was lower on those particular items? (HE FACED DIRECT COMPETITION FROM FARM STANDS, PLUS HE FACED LOWER TRANSPORTATION COSTS BECAUSE SOME OF THE PRODUCTS WERE LOCALLY AVAILABLE.)

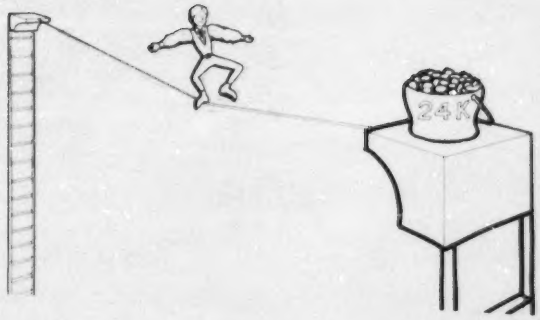
5) What cost advantages did Piggly-Wiggly have over Mr. Midas' store? (CLOSE AVAILABILITY OF TRANSPORTATION AND HIGH VOLUME PURCHASING POWER BECAUSE OF A LARGER MARKET AREA.)

6) What prevents Mr. Midas from charging higher prices than he is currently charging? (IF PRICES GET TOO HIGH IT WILL BE CHEAPER FOR CUSTOMERS TO DRIVE TO THE NEXT TOWN OR A NEW STORE MIGHT OPEN TO TAKE ADVANTAGE OF HIGH PROFITS.)

7) Did Mr. Midas face any costs that were higher than those of the Piggly-Wiggly? (YES, HIGHER TRANSPORTATION COSTS FOR MOST PRODUCTS AND HIGHER COSTS FOR LOW VOLUME PURCHASES.)

8) Was Dalton correct in accusing Mr. Midas of charging the people of Pea Vine Corners prices that were "unfairly" high? (PROBABLY NOT, FACED WITH THE HIGHER COSTS OF TRANSPORTATION, SMALL VOLUME PURCHASES AND SLOW TURNOVER OF HIS INVENTORY, HIS PRICES WERE PROBABLY CORRECT. IF HE HAD BEEN MAKING EXCESSIVE PROFITS HE WOULDN'T HAVE BEEN THE ONLY STORE IN TOWN FOR LONG.)

RISK: NOTHING VENTURED NOTHING GAINED



Economic decisions involve risks. Decision makers often take risks intentionally because they expect to benefit as a result of their decisions. Examine each of the following situations and indicate the nature of risk involved as well as the expected gain.

Situation	Nature of Risk	Expected Gain
1. Bob's Plumbing Supply Company pays for the training of an office employee on word processing equipment.	(dollar cost for training; foregone return on other uses of the financial capital; employees may leave the firm)	(higher profits due to increased efficiency and lower cost of operation)
2. Software, Inc. advances $50,000 for the development of a new video game.	(cost of financial capital and loss of other income from next best use of that financial capital)	(profit from the new product)
3. Sue decides to attend college rather than learn to drive a truck at a trade school.	(loss of interest income on financial capital used to pay college expenses; loss of earned income as a measure of the opportunity costs of other training, and facing the chance that even with a college degree later income will not increase)	(higher lifetime earnings)
4. Auto manufacturers reintroduce the convertible.	(if cars don't sell, producers lose what they invested and earnings that could have been made with other investments)	(increased profit)
5. MacDonalds increases the price of its hamburgers.	(loss of sales to competition)	(increased profit)
6. To maintain the price of its candy bar, Sweets, Inc. reduced the size of the bar by ½ oz.	(loss of sales to competition; chance that consumers will reduce purchases more given this reduction in the size of the candy bar than they would have in response to a price increase or another modification)	(increase or maintain profit)
7. To maintain the price of its shoes, Leather Shoes, Inc. uses more man-made materials in its shoes.	(loss of sales to competition; chance of more adverse consumer response, as in #6)	(maintain or increase profits)
8. Student violates closed noon hour to purchase lunch off-campus.	(punishment if caught)	(additional satisfaction from the meal, psychic income—i.e., nonmonetary satisfaction)
9. Bill purchases a microcomputer from a mail order firm rather than a local business firm.	(cost of computer; higher costs of service, if required)	(saving money on the computer)
10. A soft drink company decides to implement a no-caffeine advertising campaign.	(cost of advertising; loss of income from other possible uses of the funds; chance that the campaign will be ineffective or negatively received)	(higher profits due to increased share of the market for soft drinks)
11. The "Flying Linguinis" trapeze act attempt a quadruple flip each night in their circus act.	(risk of failure and bodily harm)	(fame and fortune)

QUESTIONS:

1. Why do decision makers incur risks? Do you know some people who seem willing to take more risks than others? _____

2. Select one of the eleven situations above and decribe some conditions in which you would *not* take the action indicated in the situation. Select another situation and describe conditions in which you *would* accept the risk. _____

WALK-WOMAN

In a market economy, prices are set by the interaction of supply and demand. As supply changes relative to demand, the relative scarcity of an item changes and prices increase or decrease. The following exercise shows how prices may change in a market economy.

* * * * * * * * * * * * *

Chapter I: The Big Discovery

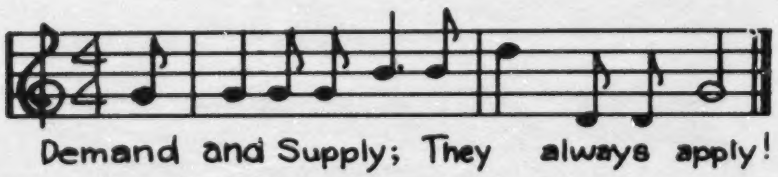
Once upon a time in 1980, a woman named Namo W. Klaw was mowing her large lawn. She listened to the mower engine a while, counted the number of passing cars with no mufflers for a few minutes, dreamed of a cold drink, and then mowed for another hour with nothing to do but think. "What if," she thought while she sweat, "I could strap my tape deck on this stupid lawn mower; then I could listen to music *and* mow!" She mowed around two trees. "What if I could strap my tape deck to me; then I could listen and mow easier."

She stopped—right by the petunias . . . "What if," she turned off the mower, "I invented a tape player small and light enough to wear so that I could listen to music but have my hands free to guide this dumb mower!" The mover rolled right into the petunias, and Namo headed for her workshop. Two weeks and one hundred discarded ideas later, she emerged with Walk-Woman (her name spelled backwards). One month later, she had produced and sold 100 Walk-Womans for $100 each. A special patent made her the only producer of the Walk-Woman. The neighborhood yards had never looked better.

Chapter II: The Attack of the Supply & Demand *What-Ifs*

How and why will the price of Walk-Womans be affected by the following changes in supply and demand?

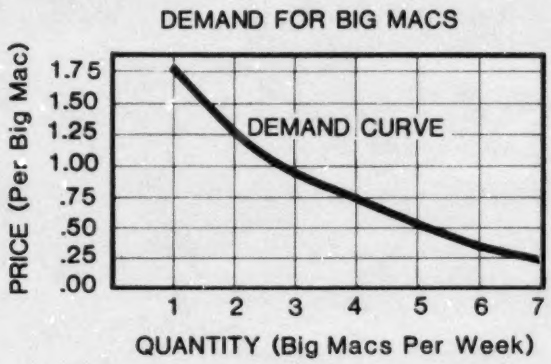
	What If? . . .	Result
1.	. . . Namo learns that all the people on the other side of town are willing to pay more for Walk-Womans?	(SHE WILL SELL HER PRODUCT TO THOSE PEOPLE AT A HIGHER PRICE, IN RESPONSE TO THEIR HIGHER LEVEL OF DEMAND.)
2.	. . . other producers decide to compete with new products very similar to the Walk Woman?	(SHE WILL PROBABLY BE FORCED TO LOWER PRICE GIVEN THE INCREASED COMPETITION—I.E., THE INCREASE IN SUPPLY.)
3.	. . . people all over the world demand such a product?	(PRICE WILL BE HIGH FOR SOME TIME, BUT PRODUCERS WILL ULTIMATELY BUILD FACTORIES, ETC., TO MEET THE DEMAND.)
4.	. . . people become deaf as a result of listening to head sets?	(DEMAND WILL PRESUMABLY FALL, SO PRICE WILL FALL.)
5.	. . . listening to music through head sets helps people lose weight?	(DEMAND AND PRICE WILL INCREASE.)
6.	. . . joggers get killed because they can't hear cars because they are listening to music?	(DEMAND AND PRICE WILL PROBABLY FALL SOMEWHAT.)
7.	. . . someone invented an inexpensive elastic sweatband that would produce the same quality music?	(DEMAND FOR THE WALK-WOMAN PRODUCT WOULD FALL SHARPLY.)



SUPPLY AND DEMAND—GRAPHING AND CHARTING PRACTICE

Economists often use graphs to clarify their ideas, and the demand for different goods is often graphed.

1. The following graph shows a hypothetical demand curve for Big Macs. When graphing demand, put price along the vertical axis and quantity along the horizontal axis. Examine the graph, then answer the questions which follow.



a. If the price of Big Macs were $1.25, how many would this person buy per week? (2)

b. What is the quantity of Big Macs demanded at a price of $ .25? (7)

c. What is the quantity demanded at a price of $1.75? (1)

d. Underline the correct word:

(1) Demand curves slope (up/ down).

(2) The graph shows that as price increases, the quantity demanded (increases/decreases).

(3) In the graph, as the price decreases, the quantity demanded (increases/decreases).

2. Market Survey

a. What is your favorite soft drink? _____

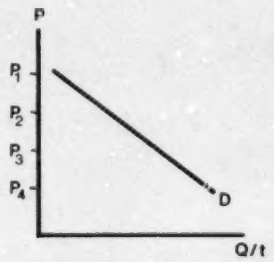
b. How much money do you usually spend for this drink? _____

c. How many cans or bottles of this drink do you buy each week? _____

d. Suppose that, given the various ingredients used in making soft drinks, the cost of the sugar ingredient doubled because of crop losses. How would this affect the price of soft drinks? (INCREASE IT, DUE TO REDUCED SUPPLY.)

e. How would you react to this? (BUY FEWER SOFT DRINKS.)

f. List a set of 4 prices which shows increases in the price of your favorite soft drink. Start with the price as it is now and end with a doubling of that price. On a separate piece of paper draw a graph and show your reactions to various increases in price, in terms of your own purchases. Follow the directions given in #1: put price along the vertical axis and quantity along the horizontal axis. The title for your graph could be "My Demand for (favorite soft drink)."



THE GRAPH SHOULD HAVE THE SAME GENERAL CHARACTERISTICS AS SHOWN HERE, BUT SOME STUDENTS WILL REDUCE PURCHASES MORE THAN OTHERS IN RESPONSE TO THE PRICE INCREASES.

3. Sugar is used in many products other than soft drinks. Study the chart below. Complete the chart to indicate changes you think would occur in response to increased prices for sugar in the markets as indicated. Use an upward-pointing arrow (↑) to indicate an increase in the column, and a downward-pointing arrow (↓) to indicate a decrease in a column. Write NC if no change is expected. In the last column, titled "Summary of Changes," state briefly what changes took place, and what would happen to the market clearing price and quantity of products sold in these markets. The first example is completed for you.

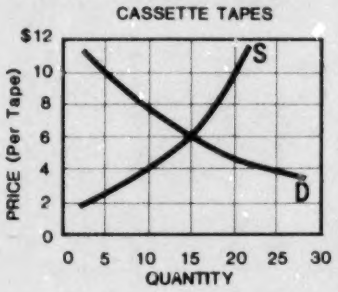
	CHANGES			
MARKET	PRICES, WAGES, ETC.	DEMAND	SUPPLY	SUMMARY OF CHANGES
ICE CREAM	(↑)	No change but quantity demanded will ↓ at higher price.	(↓)	Price increased; fewer products made and sold.
WORKERS AT ICE CREAM FACTORY	(↓)	(↓)	(NC, but quantity supplied will ↓ at at lower wage rates.)	(PEOPLE BOUGHT LESS ICE CREAM; FEWER WORKERS NEEDED; WAGES MAY FALL IF SALES ARE DOWN FOR AN EXTENDED PERIOD OF TIME.)
CHOCOLATE CHIP COOKIES	(↑)	(NC BUT QUANTITY DEMANDED WILL ↓ GIVEN HIGHER PRICES.)	(↓)	(PRICE INCREASES: FEWER PRODUCED AND SOLD.)
SALESMEN FOR COOKIE FACTORY	(↓)	(↓)	(NC, BUT QUANTITY SUPPLIED WILL ↓ AT THE LOWER WAGE RATE.)	(FEWER SALES; FEWER SALESMEN NEEDED; WAGES WILL GO DOWN.)
FRUIT JUICE PRODUCTS (Soft Drink Substitute)	(↑)	(↑)	(NC BUT QUANTITY SUPPLIED WILL ↑ AT HIGHER PRICES.)	(DEMAND INCREASES DUE TO HIGHER PRICES FOR SOFT DRINKS. MORE WILL BE SOLD AND PRICES WILL ↑.)
FRUIT GROWERS	(↑)	(↑)	(NC, BUT QUANTITY SUPPLIED WILL ↑ AT HIGHER PRICES.)	(DEMAND ↑ AS A RESULT OF ↑ PRICES FOR FRUIT JUICE PRODUCTS. QUANTITY SUPPLIED WILL ↑.)

(DEMAND SHOWS A SCHEDULE OF HOW MUCH WILL BE BOUGHT AT ALL POSSIBLE PRICES—SUPPLY IS ALSO A SCHEDULE SHOWING A POSITIVE RELATIONSHIP BETWEEN PRICE AND QUANTITY SUPPLIED. ONLY WHEN THE AMOUNT PEOPLE WANT TO BUY OR SELL AT ALL POSSIBLE PRICES CHANGES DO WE CONSIDER DEMAND OR SUPPLY TO HAVE CHANGED.)

PICTURE THIS

Graphs can be used to show a market clearing price (MCP) and the effects of changes in demand and supply.

The graph below shows the supply and demand for cassette tapes. Examine the graph and answer the questions which follow:

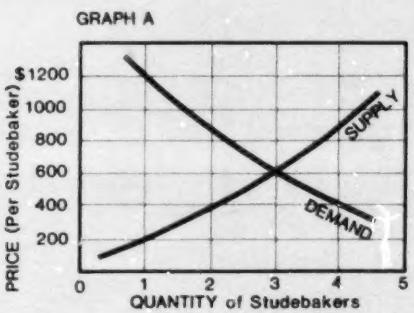


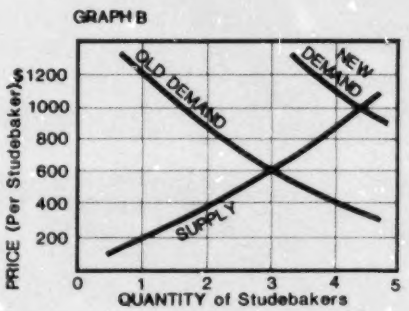
1. Fill in the word "supply" or "demand."
   a. The (DEMAND) curve shows how much consumers are willing and able to buy at different prices.
   b. The (SUPPLY) curve shows how much producers are willing and able to sell at different prices.
2. At a price of $4.00,
   a. how many tapes will consumers buy? (25)
   b. how many tapes would producers like to sell? (10)
   c. Therefore, at a price of $4.00, is there a shortage or a surplus? (SHORTAGE)
3. At a price of $10.00,
   a. how many tapes will consumers buy? (5)
   b. how many tapes would producers like to sell? (20)
   c. Therefore, at a price of $10.00, is there a shortage or a surplus? (SURPLUS)
4. At a price of $6.00,
   a. how many tapes will consumers buy? (15)
   b. how many tapes would producers like to sell? (15)
   c. Therefore, at a price of $6.00, is there either a shortage or a surplus? (NEITHER, THIS IS THE MARKET CLEARING PRICE.)
5. What does market clearing price mean? (THE AMOUNT DEMANDED EQUALS THE AMOUNT PRODUCERS WANT TO SELL AT THAT PRICE.)

   What price is the market clearing price in this example? ($6.00)
6. Underline the correct word in parentheses.
   a. At the prices of $2.00 or $4.00 – below the market clearing price, a (shortage/surplus) exists because people want to buy (more/less) than is available.
   b. At prices of $8.00, $10.00 or $12.00 – above market clearing price, a (shortage/surplus) exists because people want to buy (more/less) than is available.

CHANGES IN DEMAND: The film, Market Clearing Price, described situations where demand changed due to changes in people's tastes, incomes, and substitute products. This can be shown by shifting the demand curves.

Graph A shows the supply and demand for Studebakers before they were considered very desirable to people like Lance. Graph B shows the change in demand caused by the change in people's tastes. People decided that they wanted to own old Studebakers, causing demand to increase.

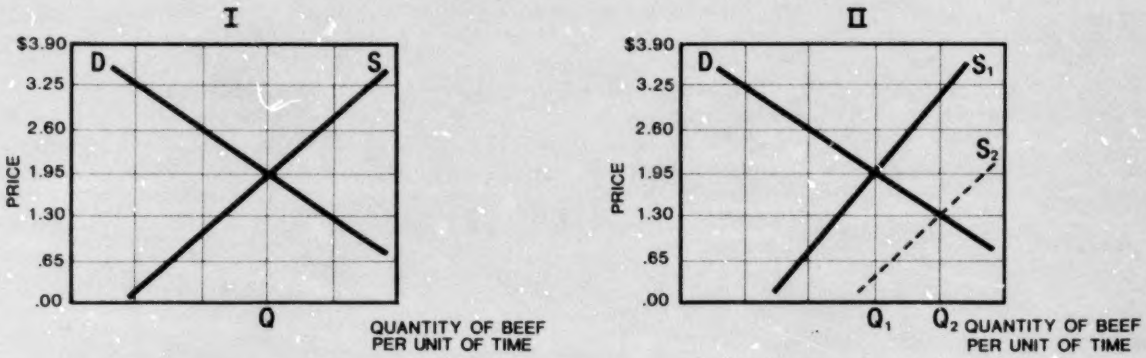




1. What is the market clearing price in Graph A? ($600.00)
2. What is the market clearing price after the increase in demand? ($1,000.00)
3. How did the increase in demand affect the quantity of Studebakers which sellers would like to supply? (AT THE HIGHER PRICE, THE NUMBER OF CARS SELLERS WERE WILLING TO SELL INCREASED, EVEN THOUGH SUPPLY—I.E., THE SUPPLY CURVE—DID NOT CHANCE.)

CHANGES IN SUPPLY: Sam Craggy, a rancher who sells cattle to Julia, discovers a new method to get more useable meat from each cow he grows. Since the process is more efficient, costs decline.

Graph I shows the supply (S) and demand (D) for beef before the introduction of the new process. Graph II shows the change in supply caused by the use of the improved process.



1. What is the MCP in Graph I? ($1.95. THE MARKET CLEARS WHEN QUANTITY DEMANDED EQUALS THE QUANTITY SUPPLIED.)
2. What is the MCP after the increase in supply? ($1.30. WITH THE INCREASE IN SUPPLY THE $1.95 PRICE RESULTS IN A SURPLUS. TO ELIMINATE THE SURPLUS SELLERS CUT THE PRICE. AT $1.30 THE AMOUNT SELLERS ARE WILLING AND ABLE TO SELL EQUALS THE AMOUNT CONSUMERS ARE WILLING AND ABLE TO BUY.)
3. As the price falls consumers use more beef. Why? (TWO REASONS—THE SUBSTITUTION AND INCOME EFFECT. BEEF BECOMES RELATIVELY CHEAPER COMPARED TO BEEF SUBSTITUTES SUCH AS PORK, LAMB, CHICKEN & FISH. ALSO, AS THE PRICE FALLS PEOPLE ARE, IN REAL TERMS, WEALTHIER—THEY CAN AFFORD MORE EVEN THOUGH THEIR NOMINAL INCOME HASN'T CHANGED.)

You Must Be Kidding! What Does It Really Cost?

In a market economy, price is a major allocative mechanism. That is, the price of a good is the major determinant of the quantity demanded and supplied of a good. Consumers don't like prices to be high and producers don't like prices to be too low. As a result, these groups often exert powerful pressures upon government to regulate prices. Farmers, for example, have lobbied their legislators to maintain prices for farm products at higher levels than would be set in the marketplace. The film *DEMAND* illustrates another case where, following a change in the supply of gas, political pressures led government to put a ceiling on the price of gasoline lower than the price that would have been set in the marketplace. But will that become the new, *real* cost gasoline to conumers? This exercise will help you determine the real cost of gas to the people waiting in line at Mr. Mann's station.

At Lester Mann's station, the price of gas has risen to the legal ceiling price of $1 per gallon; but, at this price, the quantity of gas demanded exceeds the quantity of gas available. Gas is in limited supply, and as a result people lining up to buy gas experience an average wait-time of one hour. To help ease the pressure, Mr. Mann has decided he will sell only ten gallons of gas to each customer—no more, no less. Because people's time is valuable, the actual price of the gas should reflect the cost of the wait-time as well as the money they pay for the gas. Using a person's wage as a simplified measure of the value of his or her time, compute the *real* cost of gas for each of the following persons:

Person	Price of Gas	+	Approx. Hrly. Wage	=	Total Cost	Real Cost per gallon	=	Total Cost / 10
Mr. Kodner	10.00		Retired*		(10.00)	(1.00)		
George Donaldson	10.00		10.00		(20.00)	(2.00)		
Dr. Washington	10.00		30.00		(40.00)	(4.00)		
Lance O'Shaughnessy	10.00		3.00		(13.00)	(1.30)		
Sissy	10.00		5.00		(15.00)	(1.50)		
Mr. Jamison	10.00		20.00		(30.00)	(3.00)		
Mrs. Jamison	10.00		12.00		(22.00)	(2.20)		
Julia Perez	10.00		9.00		(19.00)	(1.90)		

*Undoubtedly, Mr. Kodner's time has value, but this is a simplified model so we assume it is 0.

Questions:

1) What two individuals benefit most as a result of their ceiling price? (LANCE) and (MR. KODNER). Why? (THEIR TIME IS LESS VALUABLE.)
2) What two individuals are actually paying the highest price for gas? (MR. JAMISON) and (DR. WASHINGTON). Why? (THEIR LOST TIME IS MORE VALUABLE)
3) If another station in town is selling gas illegally for $1.90 per gallon and there are no lines, who probably will go there to buy gas rather than waiting in line at Les Mann's station? (MR. JAMISON), (MRS. JAMISON), (DR. WASHINGTON), (MR. DONALDSON).
4) Can you think of any reason why a person might not go to the illegal station, even if he or she believed he might save money by going there? (PERHAPS PSYCHIC COST (GUILT) OF DOING SOMETHING ILLEGAL IS GREATER THAN SAVINGS, OR THE FEAR OF BEING SEEN DOING BUSINESS AT AN ILLEGAL OPERATION OUTWEIGHS THE BENEFITS.)
5) Give one reason to support the claim that Les Mann's ten gallon rule is fair. (EVERYONE TREATED EQUALLY) Is Unfair? (INDIVIDUAL DIFFERENCES ARE NOT TAKEN INTO CONSIDERATION)
6) Can you think of several ways we could decide who would get goods which are in short supply? (RATIONING, OTHER KINDS OF CONTEST, FIRST COME/SERVED, AUCTION, ABILITY TO PAY PRICE, "NEED" DETERMINED BY A "THIRD PARY", OTHER GOVERNMENT RULES)
7) Suppose the government had not intervened and the gas prices had risen in the marketplace to $2 per gallon, who would be paying more with the marketprice than with the ceiling price? (MR. KODNER, LANCE, SISSY, JULIA PEREZ)
8) How might people adjust their purchases of gas if they thought the price of gas would rise to the $2 per gallon level and stay there for a long period of time? TUNE CAR ENGINE, BUY SMALLER CAR, BUY CARS WITH FEWER GAS-USING FEATURES, USE MORE PUBLIC TRANSPORTATION, CAR POOL, MOVE CLOSER TO WORK, DEVELOP ALTERNATIVE ENERGY SOURCE CARS)

Extension Activity: First read the list (below) of ways many people use gasoline.

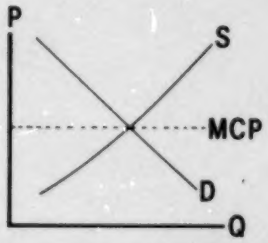
Can you add more ways you or your family use gasoline? *Check* all which you and your family use; *circle* the three which you think your parents would be willing to give up if such a price increase occurred.

_____ Driving to work
_____ Driving to shopping mall
_____ Driving to grocery daily
_____ Driving to grocery weekly
_____ Driving to school
_____ Driving to cottage, park, or shore
_____ Driving a motor boat
_____ Delivering hot meals to elderly
_____ Driving to church
_____ Visiting relatives
_____ Riding a moped or motorcycle
_____ Pulling mobile camping trailer
_____ Driving to golf, tennis, or club
_____ Cruising
_____ (MOWING THE LAWN)
_____ (FOR SNOWBLOWERS)

Are your choices the same as the ones you think your parents would make? _____ Why? (PROBABLY SOME DIFFERENCES, BECAUSE OF DIFFERENT INTERESTS, VALUES AND COSTS.)

FINDING REAL MARKET PRICES

When we use graphs to determine market clearing prices, it seems like a simple thing to do. We know that the market clearing price is the price where the amount supplied is equal to the amount demanded, and looks like this:



This is easy to do. But what happens in the real world when we survey prices? The market clearing price is not so easy to find! Many prices for identical goods are found. This exercise will show the range of prices in a market, and will help you explain the reasons for these differences.

A recent survey of local businesses shows the following prices for a 2-liter bottle of a nationally advertised cola:

Small 24-hour convenience store	$1.79
Large grocery store	$1.39
Warehouse "no-frills" grocery store	1.19
Gas station/convenience store	2.19
Discount department store	$1.39

Can you tell what the market clearing price is? (THERE ISN'T A SINGLE PRICE, BUT THERE IS A MARKET CLEARING PRICE AT EACH STORE, WHICH VARIES DEPENDING ON CONVENIENCE AND OTHER SERVICES OFFERED WITH THE PRODUCT.)

What other information do you need to determine whether these are market clearing prices for the different stores? (DO THE STORES SELL ALL THEY HAVE TO SELL WITHOUT HAVING CUSTOMERS WHO CAN'T BUY ALL THEY WANT TO AT THOSE PRICES – I.E., ARE THERE SHORTAGES OR SURPLUSES. MARKET CLEARING PRICE MUST CLEAR BOTH THE AMOUNT CONSUMERS WANT TO BUY AT THAT PRICE *AND* THE AMOUNT PRODUCERS WANT TO SELL.)

After surveying these local businesses, we find that none has a surplus or shortage of the cola. What explanations can you offer for the differences in price? (Hint: Think about why people might be willing to pay a higher price at different stores.)

1. (CONVENIENCE OF LOCATION AND HOURS OF OPERATION.)
2. (CONVENIENCE IN NOT WAITING IN LINES, IN PARKING LOTS, ETC.)
3. (CONVENIENCE IN BEING ABLE TO BUY OTHER PRODUCTS AT THE SAME STORE, ETC.)

Take a market survey of your own. Choose three grocery stores and check the prices of five identical products. If you use advertisements in the newspaper you won't even have to go to the store! Record the prices for those items in the chart below.

	ITEM	STORE #1 PRICE	STORE #2 PRICE	STORE #3 PRICE
1.				
2.				
3.				
4.				
5.				

Is there any store which is much cheaper or more expensive than the others for all items? _____

Are there any specific items that have a big difference in price from store to store? _____

Explain any differences that you found, using your knowledge of the determinants of supply and demand. (IF OTHER SERVICES AND CONVENIENCES ARE SIMILAR, SOME PRICE DIFFERENCES MAY STILL BE NOTICED. IN PARTICULAR, STORES OFTEN COMPETE BY ADVERTISING DIFFERENT PRODUCTS AT LOWER PRICES TO DRAW CUSTOMERS. ONCE A DECISION IS MADE TO SHOP IN ONE STORE, IT WILL NOT ALWAYS PAY TO SPEND EXTRA TIME, GAS, ETC., TO CHECK OUT PRICES FOR ALL OF THE PRODUCTS YOU WANT TO BUY, SO PRICES CAN VARY SOMEWHAT. STILL, OVER TIME COMPETITION PUTS A LIMIT ON HOW MUCH PRICES CAN VARY.)

What kinds of benefits do you receive from checking prices? (OPPORTUNITY TO SAVE MONEY ON PURCHASES.)

What kinds of costs do you incur from checking prices? (LOST TIME, GAS, ETC.)

Would this be a worthwhile activity for you to use as a consumer? Why or why not? (SO LONG AS EXPECTED BENEFITS EXCEED COSTS, YOU SHOULD SHOP AROUND. THIS IMPLIES YOU WILL SHOP AROUND MORE FOR EXPENSIVE PRODUCTS THAN FOR INEXPENSIVE ONES.)

As you can see from this exercise, there is sometimes a wide variety of prices for any good in a market. These price differences make sense for many reasons, such as the level of competition in an area, the convenience of shopping in one store, time spent waiting in line, etc. By shopping around and comparing prices, we may find ways to save money, but even the shopping around has a cost. Everyone must make decisions on what and where to buy under conditions of some uncertainty and incomplete information. That's because information and certainty are scarce goods too, just like all other things we buy.

When the Price Isn't Right

A Tale with Two Tails (Endings)

Julia Perez just knew that her customers couldn't pass up beautiful fresh strawberries, even though they came to her market expecting to buy only meat. Besides, she was sure that the $.99 per quart price was a good price. At that price, she felt that she would make a profit on the strawberries and still offer a good value to her customers so that the one hundred quarts of strawberries she had bought could be sold in a single day.

Ending A

The price must have been good because all the strawberries were sold by 1:00 PM; and at least twenty-five customers, hearing about the strawberries from friends, were disappointed to find out that all the strawberries had been sold.

Questions:

1) Had Julia set her price at the market clearing price? Explain. (NO, HER PRICE WAS TOO LOW; IT CLEARED THE MARKET OF STRAWBERRIES BUT NOT OF STRAWBERRY BUYERS.)

2) Suppose Julia had set the price at $1.19 per quart and had still sold all the berries. Would $1.19 be a fair price, even though Julia had been willing to sell them for $.99? (THERE IS NO SCIENTIFIC ANSWER TO QUESTIONS ON WHAT IS FAIR. THE MARKET ITSELF SIMPLY REFLECTS CHOICES MADE BY CONSUMERS AND PRODUCERS. IT HAS NO "CONSCIENCE" OF ITS OWN. SOME MAY THINK IT IS UNFAIR FOR JULIA TO SELL BERRIES AT $1.19 IF SHE HAD BEEN WILLING TO SELL THEM AT $.99. ON THE OTHER HAND, CONSUMERS WHO WERE WILLING TO PAY $1.19 BUT WHO ARRIVED AFTER THE BERRIES WERE ALL SOLD MIGHT THINK IT UNFAIR THAT THEY GOT NO BERRIES. IN THEIR VIEW, THE $1.19 PRICE MIGHT HAVE DISCOURAGED ENOUGH OF THE EARLIER BUYERS SO THAT STRAWBERRIES WOULD BE AVAILABLE FOR THOSE WILLING TO PAY THE HIGHER PRICE. IT WOULD CLEARLY BE IN JULIA'S FINANCIAL INTEREST TO RAISE THE PRICE. AND REMEMBER, NO ONE IS FORCING CONSUMERS TO BUY THE BERRIES.)

3) Who benefited and who paid the cost of Julia's lack of knowledge about the market clearing price for strawberries? (ALL OF THOSE WHO BOUGHT STRAWBERRIES GAINED FROM THE LOWER PRICE. THE LOSERS WERE THE CUSTOMERS WHO COULDN'T BUY BERRIES, PARTICULARLY THOSE WHO WOULD HAVE BEEN WILLING TO PAY A HIGHER PRICE. JULIA ALSO LOST; SPECIFICALLY, SHE LOST $20 OF POTENTIAL PROFIT FOR THE RISK SHE TOOK IN PURCHASING THE FRESH BERRIES SINCE SHE COULD HAVE SOLD ALL THE BERRIES AT THE HIGHER PRICE. JULIA MIGHT ALSO HAVE LOST A LITTLE "GOOD WILL" ON THE PART OF THOSE WHO MADE AN EXTRA TRIP BUT COULDN'T GET BERRIES.)

Ending B

At 3:00 PM, Julia knew something was wrong. She still had almost fifty quarts of berries, and most of her regular customers had already completed their shopping. She was now worried that she would lose money unless she sold at least thirty more quarts of berries.

Questions:

1) Had Julia set her price for berries at the market clearing price? (NO, HER PRICE WAS TOO HIGH. IT APPARENTLY CLEARED THE MARKET OF BUYERS BEFORE IT CLEARED THE MARKET OF THE PRODUCT TO BE SOLD.

2) What would you recommend that Julia do at 3:00 PM? (HAVE A SALE AND LOWER THE PRICE OF THE STRAWBERRIES.)

3) If Julia reduces the price on berries at 3:00 PM, is she being unfair to buyers who paid the higher price earlier in the day? (ANOTHER TOUGH QUESTION. MOST ECONOMISTS WOULD SAY NO. EARLIER CUSTOMERS WERE HAPPY WITH THE PRICE THEY PAID; OTHERWISE, THEY WOULDN'T HAVE BOUGHT THE BERRIES. BUYERS DON'T ENTER INTO VOLUNTARY EXCHANGES IF THEY DON'T FEEL THAT THEY ARE GAINING IN THE TRANSACTION.)

4) Suppose Julia had paid $.75 per quart for the berries. Should she ever mark the selling price lower than $.75? (YES, UNLESS SHE HAS A MORE VALUABLE ALTERNATIVE USE OF THE BERRIES. AT 3 PM, SHE PROBABLY HAS NO MORE VALUABLE USE FOR THE BERRIES, SINCE THEY ARE HIGHLY PERISHABLE AND SHE HAS NO FACILITIES FOR KEEPING THEM OVERNIGHT. HER COST IN ACQUIRING THE BERRIES IS A "SUNK COST" AND IS NOW AN IRRELEVANT CONSIDERATION. SHE SHOULD NOW SELL THE STRAWBERRIES AT THE PRICE THAT WILL INCREASE HER REVENUES THE MOST. BERRIES SOLD AT $.50 WILL ADD TO HER TOTAL REVENUE: SPOILED BERRIES WILL ADD NOTHING.)

5) Perishable, seasonal and durable goods all have a definable market time frame. How do we know that sellers of seasonal (for example, swimwear) and durable (e.g., cars and appliances) products sometimes experience difficulty in finding the market clearing price? (PRICE INCREASES, SALE PRICES, ADVERTISING PROMOTION CAMPAIGNS, REBATES, BONUSES, OTHER SALES INCENTIVES TO SELLERS AND BUYERS, SHORTAGES OF PARTICULAR MODELS, SURPLUSES OF OTHERS, COMPANIES GOING OUT OF BUSINESS, ETC.)

SCARCE YES SHORTAGE NO

Market clearing prices (MCP) are vitally important in the economy. They serve to balance the amount of any product demanded by consumers to the amount supplied by sellers. A shortage *can* be eliminated by raising prices. The following stories illustrate the role of market prices, and clarify the distinction between scarcity and shortage.

Last year Tronics was the only electronic games business within walking distance of Joe's high school. Everytime Joe went to play games he found large crowds and waited a long time before he could play the games.

1. Was the price charged per play the market clearing price (MCP)? How do you know? (NO, SINCE JOE HAD TO WAIT TO PLAY, THE PRICE WAS BELOW THE MCP, THE NUMBER OF PLAYS AVAILABLE PER HOUR WAS LESS THAN THE NUMBER DEMANDED AT, SAY, 15¢ PER PLAY, A SHORTAGE EXISTED. AT THE MCP OF 25¢, THE NUMBER OF PLAYS AVAILABLE PER HOUR EQUALS THE NUMBER DEMANDED. THE SUPPLY CURVE ON ANY GIVEN DAY IS VERTICAL BECAUSE THE NUMBER OF PLAYS PER HOUR IS FIXED. A PRICE RISE CAN NOT INCREASE THE AVAILABLE PLAYS PER HOUR IN THE SHORT RUN.)

2. Could the waiting in line to play the games be eliminated? (ADDING MORE MACHINES WOULD BE ONE POSSIBILITY BUT THE BUILDING IS ALREADY TOO CROWDED. INCREASING THE PRICE PER PLAY WOULD ELIMINATE THE SHORTAGE AND STANDING LINE (QUEUING) AS A WAY OF ALLOCATION. AT THE HIGHER PRICE SOME PLAYERS WOULD PLAY FEWER GAMES AND OTHER PLAYERS WOULD QUIT PLAYING ALTOGETHER. THE QUANTITY DEMANDED WOULD DECLINE, ELIMINATING THE SHORTAGE.)

Recently a new video arcade, Station Break, opened for business one block away from Tronics. Now, when Joe wants to play TRON he does not have to wait.

3. Why did the new electronic games store open? (THE OWNERS EXPECT TO MAKE A PROFIT. THE WAITING LINES AND GOOD BUSINESS AT THE TRONICS STORE PROVIDED THE SIGNALS TO OPEN THE COMPETING BUSINESS.)

4. Will the new store affect the price per play? (YES. THE ADDITIONAL MACHINES INCREASE THE MAXIMUM NUMBER OF PLAYS AVAILABLE PER HOUR. AT THE ORIGINAL MCP OF 25¢ THE NUMBER OF PLAYS SUPPLIED IS GREATER THAN THE NUMBER DEMANDED. THE PRICE PER PLAY WILL DECLINE TO A NEW, LOWER MCP.)

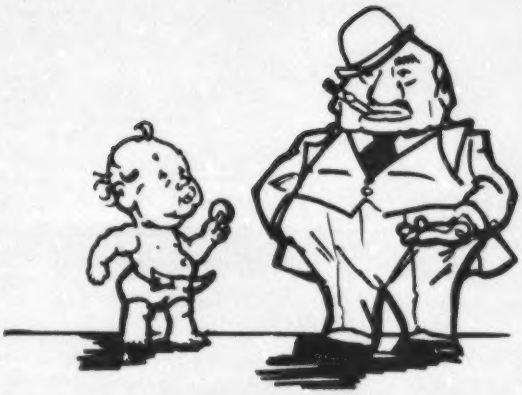
At a recent PTO meeting parents and teachers agreed that electronic game stores should be banned from locations within three blocks of Joe's school. After much debate, the city council adopted the ban, which forced Station Break to close.

5. Do Joe and his friends wait longer to play electronic games? (YES, THE RELATIVE SCARCITY OF NUMBER OF PLAYS PER HOUR INCREASED. AT THE EXISTING PRICE PER PLAY OF 15¢ A SHORTAGE EXIST3.)

6. Joe comments to his friend, "Soon the price of playing games will go up." Will he be right? (YES. IF THE NUMBER OF PLAYS PER HOUR IS UNCHANGED. THE PRICE INCREASE WILL ELIMINATE THE SHORTAGE.)

7. In which of the situation above (question 1-6), were video games scarce? Explain: (IN ALL SITUATIONS. AS LONG AS A POSITIVE PRICE IS CHARGED, CONSUMERS HAVE TO GIVE UP THE OPPORTUNITY TO BUY SOMETHING ELSE TO PLAY VIDEO GAMES, SO THEY ARE SCARCE. NEITHER SHORTAGES NOR SURPLUSSES ELIMINATE SCARCITY– AND FOR THAT MATTER CHANGING THE MARKET CLEARING PRICE (MCP) ONLY MEANS YOU ARE PLACING THE CORRECT ECONOMIC VALUE ON THE RELATIVE SCARCITY OF A PRODUCT. IT IS TRUE, OF COURSE, THAT HIGH MCP'S INDICATE A PRODUCT IS RELATIVELY *MORE* SCARCE THAN A PRODUCT WITH A LOW MCP.

JUST ONE MORE PENNY



Prices on some products are "adjusted" with taxes or other government policies. For example, the following discussion was recently heard in the Capitol:

Senator Hogg: "We simply must have more tax revenues to finance our highway and hospital building programs and I know a very easy way to do it. We will just levy a 1¢ tax on every quarter or token put in video games. The owners of these games won't mind that at all because they will figure out some way to charge the people who play the games the extra penny."

Videoarcade Operator: "Hey, wait a minute! You are talking about a 5-10% tax on the service we are providing—that is a huge tax!"

Senator Hogg: "Aw, that's such a small amount. Nobody will mind paying jes' one l'il ole penny."

Suppose that the Senator's proposal is adopted. What specific effects would you expect to see in the videoarcade industry as a result of the tax? (IF "PASSING ON" THE TAX RESULTS IN SIGNIFICANT DROPS IN THE NUMBER OF GAMES PLAYED, THE VIDEO GAME OWNERS WILL HAVE TO ABSORB MUCH OF THE TAX, ASSUMING THEIR PROFITS WERE HIGH ENOUGH TO KEEP THEM IN THE BUSINESS WITH LOWER NET EARNINGS. IF THE NUMBER OF GAMES CONSUMERS PLAY ISN'T VERY SENSITIVE TO A SLIGHTLY HIGHER PRICE, MOST OF THE TAX WILL BE PASSED ON TO CONSUMERS. MOST LIKELY, CONSUMERS AND OWNERS WOULD BOTH PAY SOME OF THE TAX, THE NUMBER OF GAMES PLAYED WOULD DECREASE SLIGHTLY, AS WOULD THE NUMBER OF VIDEO GAMES OPERATED IN THIS AREA.)

Suppose that it is necessary to raise a substantial amount of additional tax revenues throughout the nation to support highway and hospital construction. What do you see as the major advantages and disadvantages of each of the following alternatives:

	Advantages	Disadvantages
Collect a fixed amount from each person	(EASY TO CALCULATE, COLLECT.)	(PEOPLE FACE DIFFERENT ECONOMIC CIRCUMSTANCES.)
Increase personal income taxes more for high income families, & a little more for middle income families	(USES EXISTING TAX CODE; PERHAPS SOMEWHAT PROGRESSIVE.)	(REDUCES INCENTIVES FOR PEOPLE TO WORK AT HIGHER TAX RATES)
Increase excise tax on gasoline	(THOSE WHO USE ROADS AND BRIDGES PAY MORE.)	(MAKES BUYING GASOLINE MORE EXPENSIVE TO CONSUMERS.)
Increase excise tax on liquor and cigarettes	(EASY TO COLLECT, SOME FEEL IT WOULD BE GOOD TO REDUCE CONSUMPTION OF THESE PRODUCTS.)	(MAKES THESE PRODUCTS MORE EXPENSIVE; TAX WILL BE PAID BY SOME WHO RARELY USE ROADS & BRIDGES.)

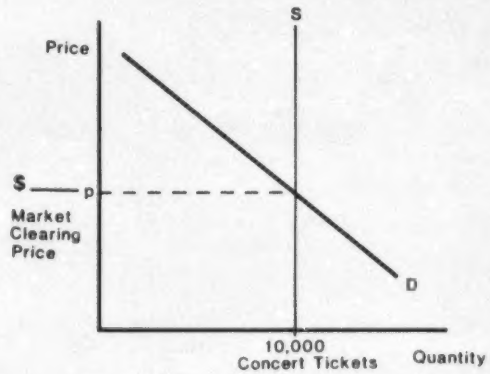
THANKS A LOT ROLLING STONES

The Rolling Stones are going to make one *last* concert tour of the U.S. The group is going to present only one concert in each of these cities: New York, Chicago, Los Angeles, and the town in which you live (or the large city nearest you if you live in a rural area). The concert will be held in an auditorium that can seat only 10,000 persons.

You are in charge of selling the tickets for this concert. (Don't worry about "good" seats and "bad" seats—your job is to sell 10,000 tickets at one price.)

At what price do you think you could sell these tickets so that there would not be a shortage or a surplus of tickets? In other words, what price do you think would balance the supply of tickets with the demand for the tickets.

In selecting what you think would be the market clearing price, you should consider how much people are now paying for concert tickets, whether people would be willing to travel great distances to see the final concert, how much the used ticket stubs would be worth, and any other factors you think important.



But wait! Just before you start making arrangements to sell the tickets, you receive the following telegram from Mick Jagger:

> WE WANT TO MAKE THIS CONCERT A SPECIAL THANK YOU TO OUR LOYAL FANS STOP FOR THIS CONCERT ONLY WE INSIST THAT NO TICKET BE SOLD FOR MORE THAN FIVE DOLLARS STOP WE WILL FOREGO OUR USUAL FEE AND WE WILL PAY ALL CONCERT EXPENSES THAT EXCEED FIVE DOLLARS PER TICKET STOP

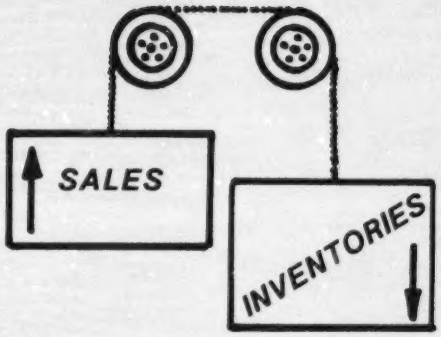
How would you describe the problem of selling the tickets under these circumstances?
(HOW DO YOU DECIDE WHO GETS TICKETS, AND WHO DOESN'T. THERE *WILL* BE A SHORTAGE AT THIS PRICE.)

What problems do you think you might encounter if you were to sell the tickets on a "first come, first served" basis?
(CROWD CONTROL TO PREVENT FIGHTS, STAMPEDES, ETC., WHERE YOU SELL THE TICKETS.)

What alternative methods might be used to sell the tickets? (LOTTERIES, OR IDENTIFYING SMALLER GROUPS ELIGIBLE FOR THE TICKETS, E.G., PEOPLE OVER 15 AND UNDER 30.)

What do you think would be the "fairest" way to sell the tickets under the conditions imposed by the group? Explain.
(STUDENT ANSWERS WILL VARY HERE—BE SURE THEIR EXPLANATIONS SUPPORT THEIR POSITION AND THEN COMPARE THE ALTERNATIVES SUGGESTED. AGAIN, THERE IS NO SCIENTIFIC ANSWER TO THIS QUESTION.)

Will tickets be resold by those who receive them? If so, what do you think the *real* cost of a ticket will be?
(THE REAL COST WILL CERTAINLY BE GREATER THAN $5, AND SHOULD INCLUDE THE VALUE OF TIME PEOPLE GIVE UP UNDER WHATEVER SYSTEM IS ADOPTED AS WELL AS ALL OTHER COSTS.)



UPS AND DOWNS

As the film Market Clearing Price illustrates, businesses maintain inventories. Inventories act as a buffer to cushion the ups and downs of daily sales. Use the following survey form to discover other functions of inventories and the costs involved in maintaining inventories. Collect information from firms in two of the following categories: 1) fast food restaurat; 2) supermarket; 3) public utility; 4) manufacturing firm.

INVENTORY SURVEY FORM

Name of firm: _____

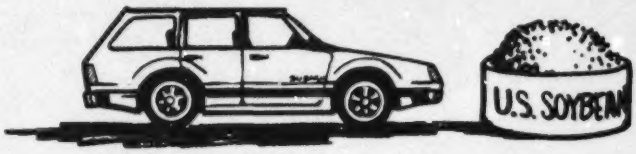
Person interviewed: _____

Date: _____

Your answers to the following questions will help me better understand the functions of inventories.

1. What goods does your firm keep in inventory?
   Five most in portant items:
   1) _____
   2) _____
   3) _____
   4) _____
   5) _____
2. Why do you maintain an inventory of these items? _____
3. Do changes in the interest rate alter your inventory practices? Please explain.
   (HIGHER INTEREST RATES LEAD TO SMALLER INVENTORIES, SINCE THE COST OF HOLDING GOODS IS INCREASED. EVEN IF THE FIRM DOESN'T BORROW MONEY TO HOLD ITS INVENTORY, IT CAN EARN MORE WITH THE FUNDS IT USES TO BUY GOODS FOR INVENTORY WHEN INTEREST RATES ARE HIGH)
4. How do you minimize the cost of carrying the inventory? _____
5. Has any product shown considerable sales fluctuations in recent weeks? Why?
   Product Name — Explanation
   1) _____
   2) _____
   3) _____
   4) _____
   5) _____
6. Are those changes related more to determinants of supply or demand? Please explain.
7. How did your firm respond to those changes? Why?
   Product Name — Response to Change
   1) _____
   2) _____
   3) _____
   4) _____
   5) _____

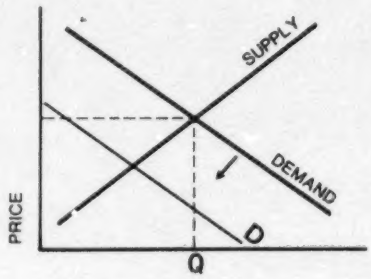
SUBARUS OR SOYBEANS?



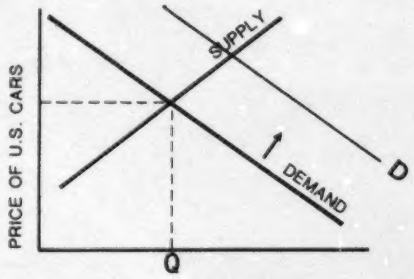
Japan recently agreed to cut its exports of new cars to the United States. Fewer imported cars means fewer U.S. dollars flowing from the U.S. to Japan. But that means there will be fewer dollars for the Japanese to spend on American products, particularly agricultural output such as corn, beef and soybeans.

The most likely result of the restrictions on importing Japanese cars to the U.S. will be a switch by consumers to a close, but more expensive substitute, American cars.

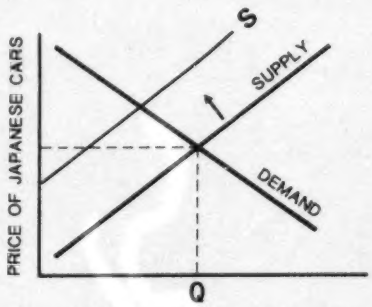
Show the direction of the expected shifts on the graphs below:



MARKET FOR U.S. EXPORTS



U.S. MARKET FOR U.S. CARS



U.S. MARKET FOR JAPANESE CARS

Circle the correct answers to complete the following statements:

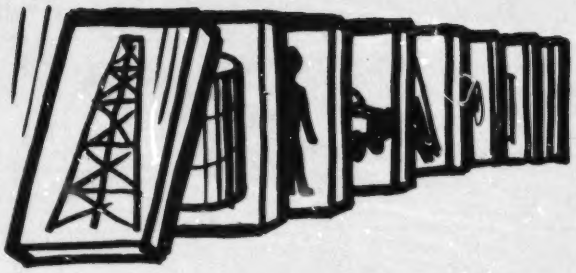
1. The "voluntary" restrictions on car exports to the U.S. by Japan will result in a (higher / lower) market clearing price (MCP) for Japanese cars in the U.S. due to the (decrease / increase) in supply.
2. The effect on the market for U.S. cars will be to (raise / lower) the market clearing price (MCP) because of the (increased / decreased) demand for U.S. cars, due to the (increase / decrease) in the availability of a substitute product.
3. As Japanese consumers cut back on their purchases of U.S. exports, since they have fewer U.S. dollars to spend, the result will be a (higher / lower) market clearing price (MCP) for U.S. exports, due to the (increase / decrease) in demand.
4. Who do you think will gain from the trade restrictions? Who will lose? For each of the following groups of people, fill in the blanks with either a W (winner) or an L (loser):

U.S. auto firms	(W)
U.S. auto workers	(W)
U.S. auto consumers	(L)
Japanese auto producers	(L)
U.S. consumers of agricultural goods	(W)
Japanese consumers of U.S. food exports	(L)
U.S. farmers	(L)

5. Do *you* think that we should restrict auto imports? Should we restrict soybean exports from the U.S.? Is it possible that your opinion is affected by the way in which such restrictions would affect you personally? Would an auto worker's response differ from that of a farmer raising soybeans? (ANSWERS WILL, OF COURSE, VARY. BE SURE STUDENTS SUPPORT THEIR POSITION LOGICALLY. ALSO, LOOK FOR THE INFLUENCE OF SELF-INTEREST IN ANSWERS, E.G., STUDENTS WHOSE PARENTS ARE FARMERS OR AUTO WORKERS.)

6. If U.S. consumers pay higher prices for cars, they will have (more / (less)) money to spend on all other products. Most products U.S. consumers buy are made in the U.S. How will spending more on cars affect demand for these other products made in the U.S.? (Increase it / (Decrease it.)) If fewer argicultural and other U.S. products are demanded, what will happen to the number of workers employed in those industries? (Increase / (Decrease)) Does this support or weaken your answer to question #5, above? Explain. (STRENGTHENS THE ARGUMENT FOR THOSE WHO OPPOSE TRADE RESTRICTIONS.)

WHEN ONE DOMINO FALLS . . . . .



There have recently been substantial increases in the salaries of petroleum engineers (to average starting salaries of over $30,000 per year for college graduates in this field in 1982). Examine the following list of possible effects that might be caused by higher salaries for petroleum engineers. Write *True* by those things you think *would* happen *as a result of* this increase and write *False* by those things you think *would not* happen. Explain your answer in the space provided.

_____ Higher prices for gasoline. (IF HIGHER SALARIES RESULTED FROM INCREASED DEMAND FOR ENGINEERS, THEN THE HIGH GAS PRICES REALLY CAUSED THE HIGH SALARIES RATHER THAN THE SALARIES CAUSING THE HIGH GAS PRICE. GETTING MORE ENGINEERS TO WORK IN THE PETROLEUM INDUSTRY SHOULD INCREASE SUPPLY AND LOWER PRICES FOR GAS OVER TIME. ONLY IF THE ENGINEERS' SALARIES RISE BECAUSE OF A REDUCED SUPPLY OF ENGINEERS WOULD GAS PRICES INCREASE.)

_____ Fewer students majoring in petroleum engineering. (FALSE. HIGHER SALARIES WOULD INCREASE THE NUMBER.)

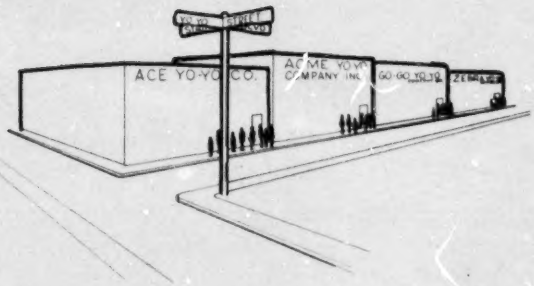
_____ Decreased supply of professors of petroleum engineering. (TRUE. AT LEAST FOR A TIME, SOME PROFESSORS WILL GO TO WORK FOR THE OIL COMPANIES.)

_____ Increased demand for housing in Houston, Texas. (TRUE. HOUSTON IS, OF COURSE, A LEADING OIL CENTER WHERE MANY PETROLEUM ENGINEERS LIVE.)

Suppose that, because of a reduced supply of carpenters, there is a sudden and substantial increase in their wage rates throughout the United States. Make a list of changes in wages and other prices you think will happen as a result of this increase. You must create your own list – but the above list of possible effects of higher salaries for petroleum engineers may help you think of inter-relationships between the wages of carpenters and the supply and demand for other goods and services.

(HOUSING PRICES WILL INCREASE, AS WILL MOST BUILDING COSTS. THIS WILL INITIALLY REDUCE THE AMOUNT OF CONSTRUCTION. RESULTING IN LOWER PRICES FOR SOME BUILDING MATERIALS, PARTICULARLY LUMBER. SUBSTITUTES FOR CARPENTERS (E.G., STONE MASONS, PLASTERERS, ETC.) WILL BE IN GREATER DEMAND, SO THEIR WAGES WILL RISE. MANY OTHER ADJUSTMENTS ARE, OF COURSE, POSSIBLE.)

HOW MANY WORKERS SHOULD BE HIRED?



You are the President of Acme Yo-Yo Company, a small manufacturing firm that produces "Supersonic Yo-Yos"—a popular toy that makes a "supersonic" noise when used.

Acme's yo-yos are manufactured by yo-yo makers working at two yo-yo making machines. You have been estimating how many yo-yos your company can make using different numbers of workers, and you now have to decide just how many workers Acme will hire.

Your study of your yo-yo making process has shown that you can produce the following number of yo-yos per day depending upon how many workers you hire.

No. of Workers Hired	No. of Yo-yos produced each work day	Change in # of yo-yos produced
1	20	20
2	50	30
3	70	20
4	85	15
5	95	10
6	100	5

After the second worker is hired, hiring more workers still increases the number of yo-yos produced, but the extra number of yo-yos produces gets smaller and smaller as more workers are hired. Why do you think this is true? (IT'S NOT THAT WORKERS 3-6 ARE OF POORER QUALITY, BUT RATHER BECAUSE THE AMOUNT OF CAPITAL EACH WORKER HAS TO WORK WITH (I.E., IN THIS EXAMPLE, MACHINES PER WORKER) DECREASES. THIS IS AN EXAMPLE OF THE LAW OF DIMINISHING RETURNS.)

You have also learned that the market for Acme's yo-yos is such that Acme can sell as many yo-yos as it wants each day for $2 each, and that you can hire as many qualified yo-yo makers as you need by paying each one $25 per day.

The following Table can help you decide how many workers to hire. First, you need to calculate how much revenue Acme will take in at each possible level of output. Then you will have to calculate how much *additional* revenue is earned by hiring one more worker. You can do this by comparing total revenue at one level of output with total revenue at the *next lowest* level of output. Finally, you can compare the *additional* revenue from hiring each worker (this is called the marginal revenue product of labor) with the *cost* of hiring the additional worker (which in this case is always $25 per day).

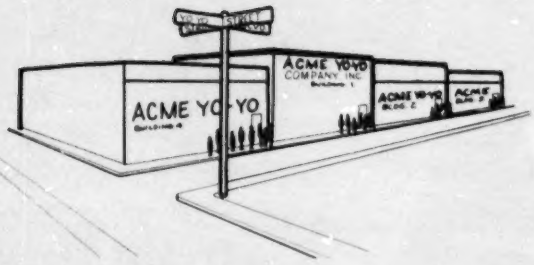
1 Number of Workers Hired	2 Level of Output (Number of yo-yos produced per day)	3 Extra Output (from hiring one more worker)	4 Price at which yo-yos can be sold	5 Total Revenue (PxQ, or col. 4 x col. 2)	6 Marginal Revenue Product (the change in total revenue from previous level, or col. 3 x col. 4)
0	0	0	$2	$0	— — —
1	20	20	$2	(20x2) = $40	$40
2	50	(30)	$2	(50x2) = $100	($60)
3	70	(20)	$2	(70x2) = $140	($40)
4	85	(15)	$2	(85x2) = $170	($30)
5	95	(10)	$2	(95x2) = $190	($20)
6	100	(5)	$2	(100x2) = $200	($10)

How many workers should Acme hire? Why? (FOUR. THE FOURTH WORKER COSTS YOU $25, BUT BRINGS IN MORE THAN THAT IN EXTRA REVENUE. THE FIFTH AND SIXTH WORKERS DON'T INCREASE OUTPUT ENOUGH TO COVER THEIR WAGE COST TO ACME.)

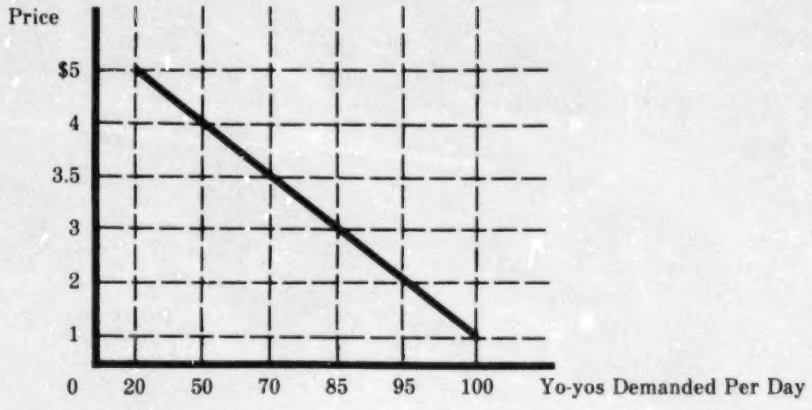
If the demand for yo-yos increases so that Acme can sell as many yo-yos as it wants for $3 each, what effect will this have on Acme's level of employment? (MRP FOR WORKERS 1-6 WILL NOW BE, RESPECTIVELY $60, $90, $60, $45, $30 and $15. SINCE WAGE COST/WORKER IS STILL $25/DAY, YOU SHOULD HIRE 5 WORKERS NOW.)

In order to make as much profit as possible, a firm should hire an additional worker as long as that worker's labor produces a (MARGINAL REVENUE PRODUCT) that is greater than (THE WAGE RATE OR COST OF HIRING THE WORKER)

THE ONLY (YO-YO) GAME IN TOWN



Instead of being able to sell as many yo-yos as it wants at $2 each, suppose that Acme Yo-Yo Co. is a monopolist. This means that Acme has no direct competition in selling yo-yos (although Acme will face competition from others kinds of toys and games). Acme finds that, as a result of its monopolistic position, it can charge a price higher than $2 if it wants to cut back its production and sell only a few yo-yos each day. Acme will, however, have to lower its price to sell additional yo-yos. Suppose that Acme finds that the demand for its yo-yos looks like this:



What effect will this have on Acme's demand for labor? You can figure this out by using the same procedure you followed when the price stayed constant at $2. You will have to calculate how much additional revenue will be brought in by hiring one more worker, and comparing that extra revenue with the extra cost of hiring the worker (i.e., the wage rage).

You can use the same table you used before except that now the price changes if more yo-yos are sold:

1 Number of Workers Hired	2 Level of Output (Number of yo-yos produced per day)	3 Extra Output (from hiring one more worker)	4 Price at which yo-yos can be sold	5 Total Revenue (PxQ, or col. 4 x col. 2)	6 Marginal Revenue Product (the change in total revenue from previous level, or col 3 x col. 4)
0	$ 0	0	$0	$0	— — —
1	20	20	$5	(20x$5) = $40	$100
2	50	(30)	$4	[(50x$4) = $200]	($100)
3	70	(20)	$3.50	[(70x$3.50) = $245]	($145)
4	85	(15)	$3	[(85x$3) = $255]	($10)
5	95	(10)	$2	[(95x$2) = $190]	(-$65)
6	100	(5)	$1	[(100x$1) = $100]	(-$90)

How does Acme's demand for labor differ from when its product sold for $2 each? (ACME'S DEMAND SCHEDULE FOR LABOR IS ITS MRP SCHEDULE, WHICH NOW FALLS OFF BECAUSE OF THE LAW OF DIMINISHING RETURNS *AND* BECAUSE ACME MUST NOW LOWER ITS PRICE TO SELL MORE. SO NOW, FEWER WORKERS WILL BE HIRED.)

Acme's decision-making rule is the same: if an additional worker adds more to revenue than cost, this worker should be hired. If Acme can still hire workers at $25 per day, how many workers should Acme hire? Why? (3—BEYOND THAT LEVEL, WORKERS DON'T GENERATE ENOUGH ADDITIONAL REVENUE TO COVER THE COST OF HIRING THEM.)

THE DEMAND FOR LABOR

Given a wage rate and a schedule of how much additional revenue different numbers of workers would create for a firm, it is fairly simple to determine how many workers should be hired. (SEE THE ACTIVITY SHEET "HOW MANY WORKERS SHOULD BE HIRED" IN THIS SERIES).

A very different question, but one just as important to employers, workers, and students who will soon be working, is what will cause the number of workers hired *at all possible wage rates* to rise or fall? In other words, what will cause the entire schedule of a firm's demand for workers to change. If demand increases, more workers will be hired and receive higher wages (assuming the supply or workers doesn't change). If demand falls (with no change in supply) fewer workers will be hired and wage rates will fall.

The demand for labor, and for that matter the demand for any resource used to produce products, will change anytime one of three basic factors changes:

- Demand will increase if that factor, say labor, becomes more productive, and fall if labor becomes less productive. If, through education, training, experience, or the opportunity to work with more and better machinery, workers produce more output, they will become a more valuable resource, so wages and salaries will rise.
- If the demand for the final product labor produces rises, then the demand for labor will increase, too. Of course when demand for the final product falls, fewer workers will be required to make the product. For example, there isn't a large demand for blacksmiths anymore.
- If the price of other resources which can substitute for labor in the production of a product goes down, employers will use more of that resource and less labor. But, if labor becomes less expensive relative to capital, land, energy or other resources that are used in making products, employers will naturally hire more labor, and less of the other inputs.

Based on class discussion or reserch on expected changes over the next 10-15 years, use the information presented above and complete the table below by stating, for each of the groups of workers listed, whether you believe the number of workers hired in these areas will increase faster, slower, or about the same as average hiring across all occupations in the United States during the same time period. List briefly the major reason why you might expect to see such changes. (You may want to refer to the U.S. Bureau of Labor Statistics *Occupational Outlook* series.)

Occupation	Employment and Salary Increases Compared with Average Increases Throughout the Nation for all Occupations			
	Faster	About the Same	Slower	Reason for Change*
Teachers				(PERHAPS SLOWER WITH SMALLER POPULATION GROWTH, ALTHOUGH AROUND 1985 ELEMENTARY ENROLLMENTS ARE EXPECTED TO BEGIN RISING AGAIN.)
Electronics Technicians				(PROBABLY FASTER, GIVEN THE RAPID SALES GROWTH OF A WIDE RANGE OF ELECTRONICS PRODUCTS.)
Assemby-line Operators in Detroit				(PERHAPS SLOWER OR ABOUT THE SAME—MANY ECONOMISTS BELIEVE THAT EVEN IF THE U.S. AUTO INDUSTRY RECOVERS FROM ITS DEPRESSED LEVEL OF THE EARLY 1980'S IT WILL DO SO USING RELATIVELY MORE CAPITAL AND LESS LABOR
Nursing-home Attendants				(FASTER, DUE TO THE GROWING PERCENTAGE OF ELDERLY CITIZENS IN THE U.S.)
Semi-skilled workers in Phoenix, Arizona				(FASTER, ASSUMING PHOENIX AND THE "SUNBELT" CONTINUE TO GROW FASTER THAN MOST REGIONS IN THE U.S.)
Coal Miners				(OFFSETTING FORCES HERE—HIGHER PRICES FOR OIL AND NATURAL GAS WOULD HELP INCRESE COAL PRODUCTION; ENVIRONMENTAL AND TRANSPORTATION RESTRICTIONS MAY DAMPEN THAT DEMAND, HOWEVER, AS MIGHT UNKNOWN TECHNOLOGICAL CHANGES DEVELOPED IN RESPONSE TO HIGH ENERGY PRICES.)
Dry Cleaners				(DEPENDS ON CHANGES IN THE FASHION INDUSTRY, AND EVEN THE OVERALL LEVEL OF PROSPERITY IN THE ECONOMY AS, IN HARD TIMES, PEOPLE BUY LESS NEW CLOTHING BUT CLEAN OLD CLOTHING MORE.)
Dentists				(PERHAPS INCREASE, ESPECIALLY IF DENTAL INSURANCE BECOMES MORE WIDESPREAD, BUT HERE TOO THE RELATIVELY OLDER POPULATION WILL SHIFT THE KINDS OF SERVICES AND SKILLS DEMANDED.)
Gas Station Attendant				(PERHAPS SLOWER, IN RESPONSE TO HIGHER ENERGY PRICES WHICH RESULT IN LESS DRIVING, AND TECHNOLOGICAL CHANGES INCLUDING MORE FUEL-EFFICIENT CARS & SELF-SERVICE FACILITIES).
Auto Mechanic				(PERHAPS INCREASE IF PEOPLE DRIVE CARS MORE YEARS ON AVERAGE BEFORE TRADE-IN, & IF CARS BECOME MORE COMPLEX MECHANICALLY. ON THE OTHER HAND, IF MANY MORE "DO-IT YOURSELF" MECHANICS APPEAR, RESULTS WILL DIFFER.)
Astronaut				(DEPENDS PRIMARILY ON PUBLIC POLICY DECISIONS ON HOW MUCH TO "INVEST" IN SPACE PROGRAMS FOR PEACEFUL AND MILITARY PURPOSES, BUT PROBABLY SOMEWHAT FASTER DUE TO COMMERCIAL AND PUBLIC-SPONSORED ACTIVITIES IN SPACE.)
Lawyers				(AGAIN, DEPENDS LARGELY ON PUBLIC POLICY DECISIONS SUCH AS THE AMOUNT OF NEW LEGISLATION AND REGULATIONS PASSED, PROVISION OF ATTORNEYS FOR ALL DEFENDENTS, THE POSSIBLE DEVELOPMENT OF LEGAL INSURANCE & LEGAL EDUCATION PROGRAMS, ETC.)
Physicians				(LIKELY TO INCREASE AS POPULATION AGES, MEDICAL INSURANCE EXPANDS, ETC. BUT SOME FIELDS, SUCH AS PEDIATRICS, WILL PROBABLY SLOW.)
Newspaper Reporters				(PERHAPS SLOWER, AS MORE SUBSTITUTE NEWS SERVICES ARE DEVELOPED, BUT SIMILAR WORK WILL LIKELY BE AVAILABLE THROUGH OTHER KINDS OF OUTLETS.)
Travel Agents				(PROBABLY FASTER, AS A WEALTHIER AND OLDER POPULACE, ON AVERAGE, WILL TEND TO TRAVEL MORE.)

(*MANY ITEMS CAN BE ARGUED INTELLIGENTLY SEVERAL WAYS—THE IMPORTANT THING IS FOR REASONS PROVIDED TO SUPPORT THE STUDENTS' CONCLUSIONS. SOME USEFUL INFORMATION FOR THIS EXERCISE IS INCLUDED IN THE TABLE ON THE "AUTOMATION AND THE DEMAND FOR WORKERS" WORKSHEET.)

WAGE AND NON-WAGE ASPECTS OF JOB

An important factor that most people consider when making job and career decisions is the amount of money they will earn. High salaries/wages attract workers into certain jobs. Low paying jobs are usually filled by workers with little or no experience, few skills, and little training and/or education. Many workers who start in low-paying jobs, however move on to better paying jobs after gaining experience and training "on the job," which expands their opportunities.

Workers consider other factors when making job and career decisions besides the size of their paycheck, however. These may include such factors as:

1. Location
2. Risk
3. Possibilities for advancement
4. Educational requirements
5. Talent requirements
6. Freedom
7. Creativity
8. Security
9. Status
10. Power
11. Working conditions

When people make job and career decisions, they weigh the advantages and disadvantages of the various factors. People tend to choose jobs and careers that will bring them maximum benefits – a high salary/wage plus satisfactory ratings on the other factors. Because people have different skills *and* place different values on all of the factors described above, at times making trade-offs among these factors, they make different job and career decisions.

1. Consider the career decisions made by Eleanor, Julian and Sissy in the film "Wages and Production." What are some of the factors they probably considered in deciding to work at Eleanor's Furniture Factory?
(MOST ANSWERS WILL COME FROM THE ABOVE LIST – DISCUSS THEM TO BE SURE STUDENTS UNDERSTAND THESE FACTORS.)

2. Here is a list of jobs and careers; identify advantages and disadvantages of each using the factors identified at the top. You may want to include additional non-wage factors.

	Starting Salary/ Wage Rate	Location	Risk	Possibilities for Advancement	Educational Requirements	Freedom
1. Auto Mechanic	(15,000-20,000/yr)	(wide choice)	(average)	(limited)	(1-2 year of experience & high school)	(answers may vary in this category – explore
2. Computer Programmer	(15-25,000/yr)	(wide choice)	(low)	(somewhat limited)	(college or technical training & exp.)	responses with
3. Nuclear Physicist	(30-40,000/yr)	(high-technology areas)	(possibily high)	(good)	(6 years or more college & exp.)	students

Complete this chart by listing some jobs/careers in which you are interested. Identify the advantages and disadvantages of each of your choices.

(NOTE THAT RISK MAY INCLUDE SEVERAL FACTORS, SUCH AS THE CHANCE OF BEING FIRED, PERSONAL INJURY AND HEALTH CONCERNS, ETC. FREEDOM MAY SUGGEST SEVERAL FACTORS TOO, INCLUDING THE LEVEL OF IMMEDIATE SUPERVISION, ABILITY TO CHOOSE YOUR OWN WORK TIME AND TASKS, ETC.)

3. Can you put a dollar value on non-wage factors? (YES)
Explain. (IMPLICITLY, AT LEAST, PEOPLE DO OFTEN GIVE UP WAGES FOR OTHER BENEFITS, IMPLYING SOME DOLLAR VALUE.)

STEVE SUPERSHOOTER SIGNS CONTRACT FOR $1 MILLION!!!

Why do you think Steve and other professional athletes are offered a $1 million contract? Are they worth it? (EMPLOYERS OBVIOUSLY THINK THAT THESE ATHLETES INCREASE TICKET SALES (BY HELPING TEAMS WIN AND/OR PERSONALITY STATUS) TO BE WORTH THESE SALARIES. SOME RESEARCH BY ECONOMISTS HAS CONCLUDED THAT THESE ATHLETES ARE GENERALLY NOT OVERPAID GIVEN THE INCOME THEY GENERATE, I.E., THEIR MARGINAL REVENUE PRODUCTS.)

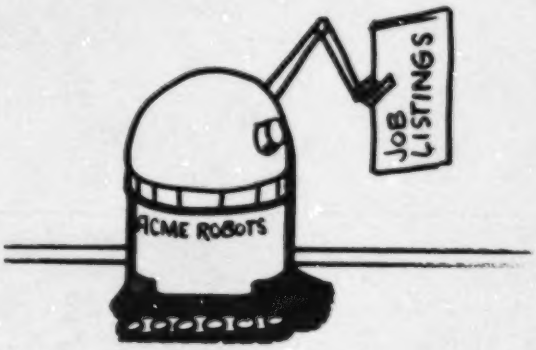
Since there are only a limited number of Steve Supershooters, most of us will probably not be offered million-dollar contracts. However, salary is an important consideration when planning for a career or looking for a job. Try to look ten years into the future. In which careers or jobs do you think the salaries will be highest? List below five careers or jobs which you think will be in great demand and therefore will probably pay high salaries. Explain briefly why you decided on your list. (A FEW ENTERTAINERS AND ATHLETES WILL ALMOST CERTAINLY CONTINUE TO BE AMONG THE HIGHER PAID WORKERS, BUT SO TOO WILL SOME CORPORATE EXECUTIVES AND ENTREPRENEURS. GROWING DEMANDS FOR COMPUTER EXPERTS, SCIENTISTS AND SOME ENGINEERS ARE LIKELY TO PUSH WAGES IN THOSE OCCUPATIONS HIGHER—SEE THE ACTIVITY ON "AUTOMATION AND THE DEMAND FOR WORKERS.")

Now try to determine which type of career or jobs may not be paying high salaries ten years from now. List below five careers or jobs which you think will not be a great demand. Explain briefly why you decided on your list. (DEMAND FOR ASSEMBLY-LINE WORKERS, AND UNSKILLED LABOR IS LIKELY TO FALL, SOMEWHAT. AGAIN, SEE THE DATA TABLE IN THE ACTIVITY ON "AUTOMATION AND THE DEMAND FOR WORKERS.")

In planning for a career what else might be considered besides wages? List below as many other factors as possible that might influence a career choice. (LOCATION, HOURS, RISKS, TRAVEL, NATURAL ABILITY, EDUCATION NEEDED, CHANCE FOR PROMOTIONS. SEE THE ACTIVITY ON WAGE AND NON-WAGE ASPECTS OF A JOB.")

Consider a future career for yourself. Write a brief paragraph below describing your most likely career choice at this time. Explain what factors helped you to make your choice.

AUTOMATION AND THE DEMAND FOR WORKERS



"The Speedup in Automation"

After a decade of decline in the face of low-cost, high-quality imports, U.S. industry is beginning to automate at a pace that will soon change the face of American factories and offices. Within reach are computer-controlled systems of robots and other sophisticated machines that will replace most humans on plant floors and produce unprecedented gains in productivity. Automated equipment is moving into offices, too, and both trends portend a radical restructuring of work, with jobs becoming more technical and more complex than ever. Altogether, these changes will affect more than 45 million American jobs, many of them during the next 20 years.

Business Week
August 3, 1981

"The Factory of the Future"

The "factory of the future" is here. In Florence, Ky., Japan's Yamazaki Machinery Works is building a new $15 million machine-tool parts plant, one of the world's first entirely automated factories. When it is completed in 1983, the Yamazaki plant will require only six human workers to tend its master computer, keep an eye on the robots—and sweep the floor. American companies, including giants such as GE, Boeing, Deere & Co. and General Motors, are also pushing to create highly automated manufacturing plants. "U.S. business has three choices in the '80s," says James A. Baker, an exectuive vice president at GE: "automate, emigrate—or evaporate."

Newsweek
September 6, 1982

Many business firms, including Steve's Ant Farm, are turning to automation as a means for increasing output while controlling the costs of production. This trend will have an increasing impact on jobs and employment. To learn more about the impact of automation, consider the following table.

Selected National 1978 employment, projected 1990 requirements, . . . by occupation* (numbers in thousands).

OCCUPATION	1978 Employment	1990 Employment	Percent Change 1978-1990
Total all occupations	94,372.6	114,000.3	20.8
Chemical engineers	53.0	63.6	20.0
College and university teachers	583.2	500.0	-14.3
Stenographers	94.0	68.0	-27.7
Typists	1,044.0	1,246.0	19.3
Data processing machine repairers	63.0	121.0	92.1
Solderers	37.8	24.0	-36.5
Security guards	548.0	820.0	49.6
Farm laborers	971.0	794.80	-18.1
Computer programmers	247.0	320.0	29.6
Electrotypers and typesetters	2.0	.90	-55.0

* The National Industry—Occupation Employment Matrix, 1970, 1978, and Projected 1990. Bureau of Labor Statistics, April 1981.

1. Identify three occupations where the projected increase in employment will exceed the national average.
(DATA PROCESSING REPAIRS), (SECURITY GUARDS), (COMPUTER PROGRAMMERS).

2. Identify two occupations where the projected increases almost match the national average.
(CHEMICAL ENGINEERS), (TYPISTS)

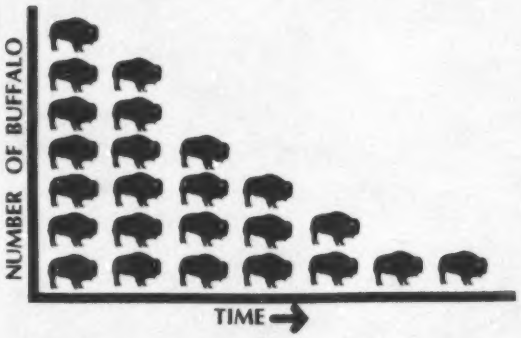
3. What is the percentage change in the number of workers needed from 1978-1990 in the following occupation:

College and university teachers	(-14.3)
Data Processing Machine Repairers	(92.1)
Farm laborers	(-18.1)
Computer programmers	(29.6)
Security Guards	(49.6)
Solderers	(-36.5)

4. Consider the impact of automation on the following occupations. Will automation increase the demand for workers, reduce the demand for workers, or have little or no impact on the demand for workers? Also, identify other factors that may influence the demand for workers in each occupation.

OCCUPATION	IMPACT OF AUTOMATION	OTHER FACTORS INFLUENCING DEMAND
College and university teachers	(LITTLE OR NO IMPACT)	(DECLINING NUMBER OF PEOPLE AGED 18-21 WILL REDUCE DEMAND. MORE SCIENCE & MATH TEACHERS MAY BE DEMANDED. GROWTH IN ADULT EDUCATION MAY OCCUR.)
Data processing machine repairers	(INCREASE DEMAND)	(WITH RISING INCOME, MORE HOUSEHOLDS BUY PERSONAL COMPUTERS, FURTHER INCREASING DEMAND.)
Farm laborers	(DECREASE)	(GROWING WORLD POPULATION WILL MAINTAIN DEMAND FOR FARM PRODUCTS.)
Computer programmers	(INCREASE DEMAND)	(PUBLIC ACCEPTANCE OF TECHNOLOGY IN EDUCATION, ENTERTAINMENT, ETC., MAY ALLOW DEMAND TO INCREASE FASTER IN THE FUTURE.)
Security Guards	(OFFSETTING EFFECTS)	(HIGHER CRIME RATES, TERRORISM, AND HIGH TECHNOLOGY INDUSTRIAL ESPIONAGE WILL INCREASE DEMAND. AUTOMATED SECURITY SYSTEMS WILL DECREASE IT.)

THE DIMINISHING BREED



The buffalo has long been viewed as a symbol of the American West. Read the following passage about buffalo in the United States and then answer the questions which follow.

The North American bison or buffalo was the largest wild animal on the continent, with the bull ranging from 1,600 to 2,000 pounds in weight and standing about six feet in height. In the 1870's millions of these beasts roamed up and down the plains of the United States. Even as late as 1870 one awed observer saw a great herd at the Arkansas River, and he said the crossing took six to seven weeks. Although the supply of buffalo seemed limitless at the time, well over ten thousand hunters had already flooded the plains.

The Indians and the white men had sold buffalo hides at frontier trading posts since the 1760's. However, the only hides of value were taken during the fall and winter when the buffalo had a fine, thick fur. These skins made good robes, coats, and overshoes. Then in 1870 tanners in Germany perfected a method of making buffalo hides into a useable leather. Hides could now be made into furniture covering, wall paddings, buckboard seats and belts for machinery. The prices for hides rose rapidly and thousands of white hunters began following and slaughtering the huge herds. By 1881, these beasts were on the verge of extinction!

Many citizens viewed the killing as wasteful. When the animal had been in great abundance and the white settlers in fewer numbers, a hunter would kill one for food and perhaps a few for extra income. The Indians needed the buffalo even more than did the settler; they were a means of survival for the Indians. The plains tribes, in particular, depended on the buffalo for many necessities of life, including goods secured from white traders in exchange for hides.

The Indian's anger mounted as he viewed the destruction of buffalo herds by white hunters who kept only the beasts' hides, and possibly, tongues or choice cuts of meat. Before long, fierce skirmishes had broken out between the Indians and settlers.[1]

1. Using what you learned from "Property Rights and Pollution," how would you account for the great decrease in the buffalo population of the United States from 1870 to 1880? (IF SOMEONE HAD OWNED THE HERDS, AS CATTLE ARE OWNED TODAY, THE OWNERS WOULD HAVE FACED STRONG INCENTIVES TO MANAGE THE HERDS FOR PRESENT AND FUTURE INCOME POTENTIAL. INSTEAD, AS WITH WHALES TODAY, HUNTERS FACE ONLY INCENTIVES TO TAKE ANIMALS TODAY, BEFORE OTHER HUNTERS KILL THEM.)

2. How was the buffalo used before 1870? (FOOD; FUR FOR COATS, ROBES AND OTHER PRODUCTS.)

3. Buffalo did not become extinct. Use reference books to find out what prevented the extinction of the buffalo. (CHANGING TASTES AND TECHNOLOGY, INCREASED COSTS OF FINDING & BRINGING BUFFALO TO MARKETS AS FEWER WERE LEFT, LAWS.)

4. Name another animal which has nearly faced extinction because property rights were not clearly defined. (WHALES, ELEPHANTS, LEOPARDS, ETC.)
   Try to find out what action was initiated to prevent the extinction of this animal and report on this to your class.

[1] Excerpted from *Profiles of Entrepreneurs in Oklahoma History* published by the Oklahoma Council on Economic Education.

SMOKING RIGHTS FOR SALE

In recent years the debate over the right of persons to smoke in public places has intensified. This debate centers on a smoker's or a non-smoker's right to use air space. That is, the heart of this issue is one of property rights. Who owns air space and the right to use it?

A large number of citizens now argue that *they* have the right to breathe unpolluted air. On the other hand, smokers believe it is *their* right to use the air to smoke as much as they please. Could a voluntary exchange, which would reveal the value of using air, take place? For example, could smokers pay non-smokers for the right to smoke? Or could non-smokers pay smokers not to smoke and leave the air cleaner?

1. How would a voluntary exchange between two passengers in a person's private automobile for the right to smoke or enjoy clean air illustrate the economic value of clean air? (IF A VERY HIGH PRICE IS PAID TO SMOKE (OR NOT SMOKE) A VERY HIGH VALUE IS PLACED ON THAT RIGHT, REFLECTING INDIVIDUAL PREFERENCES, INCOMES, ETC.)

   Would such an exchange be more or less difficult to negotiate on a public bus? Explain your reasoning. (WITH MORE PEOPLE INVOLVED, THE "TRANSACTIONS" COSTS OF NEGOTIATING AGREEMENTS BETWEEN ALL INDIVIDUALS RISE VERY DRAMATICALLY. I.E., IN EFFECT, MORE INDIVIDUAL "CONTRACTS" MUST BE ESTABLISHED DEALING WITH A WIDER VARIETY OF CIRCUMSTANCES.)

2. Why has this issue become more controversial in recent years? (IN PART, BECAUSE OF MORE INFORMATION AND EXPERIENCE WITH THE AFFECTS OF SUCH SMOKE.)

Various schemes have been undertaken to alleviate this problem. For each of the suggestions below, identify who benefits and who loses.

Scheme	Who Benefits?	Who Loses?
a. Smoking is Banned	(NON-SMOKERS)	(SMOKERS)
b. Smoking is allowed anywhere	(SMOKERS)	NON-SMOKERS)
c. Smoking allowed when no one objects, and smokers can pay non-smokers for the right to smoke.	(BOTH)	(SMOKERS WHO WANT TO SMOKE BUT WHO CAN'T, OR WON'T, PAY THE AMOUNT REQUIRED TO ALLOW SMOKING.)
d. Prohibiting smoking is allowed when no one objects, and non-smokers may pay smokers to stop smoking.	(BOTH)	(NON-SMOKERS WHO WANT TO STOP ALL SMOKING BUT WHO CAN'T, OR WON'T PAY THE AMOUNT REQUIRED TO PROHIBIT SMOKING)

3. Would the amount of smoking allowed under policies c and d be related? (ASSUMING SMOKERS AND NON-SMOKERS FACE SIMILAR FINANCIAL CONSTRAINTS, THE PRICE OF SMOKING UNDER POLICY C SHOULD BE CLOSELY RELATED TO THE PRICE FOR NOT SMOKING UNDER POLICY D, AND THE "EQUILIBRIUM" AMOUNT OF SMOKE ABOUT THE SAME IN EITHER CASE.)

Read the newspaper article below which describes one business owner's "answer" to this problem. Then answer the questions which follow the article.

YPI (Columbia City, SC) Howard Rouse, owner of the popular "Rouse's Deli", reports an interesting technique for handling the smoking-no smoking problem.

"Over the last few years," said Rouse, "more and more customers have been complaining about the cigarettes and cigar smoke in my deli. Even though a few of my best customers are smokers, it finally got to the point that something had to be done!"

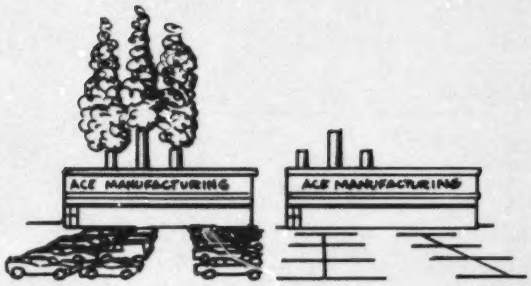
Two weeks ago signs at the entrance to the deli announced a fee of $1.00 would be added to the bill of anyone who smoked while in the deli.

Rouse admitted that the volume of customers per day had declined somewhat initially, but claimed that was offset later by more non-smokers, who seemed happier now the deli was not filled with as much smoke. Some were reported to have brought their smoking friends, just to watch their reaction to the extra charge.

1. How did this businessman attempt to solve the question of property rights to "clean" air? (IN EFFECT, HE "TAXED" SMOKERS. NOTE THAT PROPERTY RIGHTS ARE NOT FULLY EXCHANGED HERE, BECAUSE ROUSE GETS THE $1.00 FROM SMOKERS, NOT THE NON-SMOKERS WHO MUST STILL ENDURE SOME SMOKE.)
2. What problems associated with this course of action can you identify? (DISCONTENT AMONG SMOKERS: POSSIBLE REDUCTION IN BUSINESS; QUESTIONS ON THE LEGALITY OF THE CHARGE.)
3. What costs are involved with this action? (SOMEONE MUST MONITOR AND CHARGE THE SMOKERS.)
   What benefits result? (NON-SMOKERS SOMEWHAT HAPPIER, PERHAPS HEALTHIER
   Would the benefits outweigh the costs? (IN SOME ESTABLISHMENTS YES, IN OTHERS NO, DEPENDING PRIMARILY ON THE CLIENTELE.)

Imagine that you are the owner of a very popular restaurant. Some of your best customers have complained about the excessive amount of smoke in your establishment. You are, however, faced with the fact that at least one-half of your customers are smokers. What would you do? (PERHAPS USE NON-SMOKING AREAS: SPECIFY NON-SMOKING HOURS; CHARGE SMOKERS ONLY WHEN SMOKE GETS VERY DENSE, ETC.)

Question: Is Perfect Always Best?
Answer: It's a Matter of Degree!



Southeastern Power Company is a privately-owned utility company with over 15,000 stockholders. Eighty percent of its generated electricity is produced at coal-powered plants. For several years complaints have been building up about the pollution caused by an older plant near Clear City. This is the largest plant in the company's three-state network. Residents complain that each day cars are covered with fine ash coming out of the plant's huge stacks. Laundry can no longer be hung out to dry.

Finally, the Public Service Commission, which regulates this utility decides the company must "fully recognize the benefits to the public of pollution control and reduce pollution to a healthful and efficient level." That turns out to be even more difficult to interpret and carry out than it sounds, so the company officers hire a respected consulting firm to determine the costs and benefits of installing equipment to reduce the present level of air pollution. After months of study, the consultants present the following information to the company's Board of Directors meeting.

	Reduction in Pollution Level		Total Costs of Controls	Total Benefits of Controls
Polluted Air	1st	10%	$ 100,000	$10,000,000
	2nd	10%	$ 300,000	$18,000,000
	3rd	10%	$ 600,000	$24,000,000
	4th	10%	$ 1,100,000	$28,000,000
	5th	10%	$ 1,900,000	$30,000,000
	6th	10%	$ 2,900,000	$31,600,000
	7th	10%	$ 4,100,000	$32,800,000
	8th	10%	$ 5,600,000	$33,600,000
Pollution-free Air	9th	10%	$ 8,100,000	$34,000,000
	10th	10%	$11,100,000	$34,100,000

After a long period of silence (probably caused by the magnitude of the figures), one director said, "Well, it doesn't make much difference what we spend; the benefits outweigh the costs at each level."

"But," replied the company economist, "let's take a look at what benefits each *additional* level of control will provide. Then we can compare those benefits with their costs. I'm going to add two columns to the table and begin the computations; you complete the table." After a couple of minutes, the table looked as follows. You complete the table.

Reduction in Pollution Level		Total Costs of Controls	Marginal Costs	Total Benefits of Controls	Marginal Benefits
1st	10%	$ 100,000	$ 100,000	$10,000,000	$10,000,000
2nd	10%	$ 300,000	$ 200,000	$18,000,000	$ 8,000,000
3rd	10%	$ 600,000	$ 300,000	$24,000,000	$ 6,000,000
4th	10%	$ 1,100,000	($ 500,000)	$28,000,000	($ 4,000,000)
5th	10%	$ 1,900,000	($ 800,000)	$30,000,000	($ 2,000,000)
6th	10%	$ 2,900,000	($1,000,000)	$31,600,000	($ 1,600,000)
7th	10%	$ 4,100,000	($1,200,000)	$32,800,000	($ 1,200,000)
8th	10%	$ 5,600,000	($1,500,000)	$33,600,000	($ 800,000)
9th	10%	$ 8,100,000	($2,500,000)	$34,000,000	($ 400,000)
10th	10%	$11,100,000	($3,000,000)	$34,100,000	($ 100,000)

What would you recommend as the economically desired level of control? Spend ($4,100,000) to reduce pollution by (70)%.

Why is it uneconomical to spend more to reduce pollution even further? (THE EXTRA BENEFITS OF MAKING THE AIR A LITTLE CLEANER ARE FALLING WHILE THE COSTS ARE RISING SHARPLY. WE DON'T WANT TO SPEND MORE ON STOPPING POLLUTION THAN THE POLLUTION WAS COSTING US IN THE FIRST PLACE.)

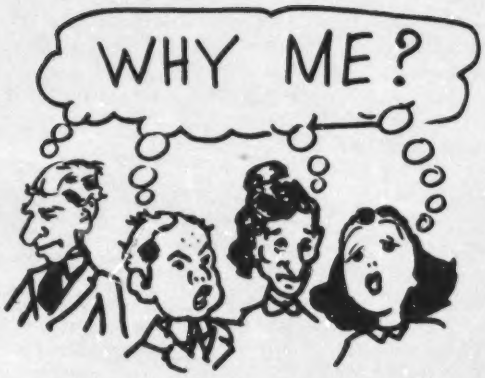
Try to apply what you learned in the activity above to the following situation.

Semester exam dates are rapidly approaching. Only two weeks left!! You're doing great in history, but have neglected algebra for two weeks and have a B- going into the exam. In addition to study time needed to maintain your A in history, you estimate the study time on algebra you need to obtain different semester exam results as follows:

Study Time	Grade
0 hrs.	45% (F)
2 hrs.	65% (D-)
5 hrs.	82% (B-)
9 hrs.	90% (A-)
15 hrs.	95% (A)
24 hrs.	98% (A+)

What would you do? Explain your reasoning. (BE SURE STUDENTS CALCULATE THE EXTRA TIME COST OF IMPROVING THEIR SCORE. PERFECTIONISTS MAY OPT FOR THE A+, BUT MOST STUDENTS WILL WEIGH COSTS AND BENEFITS AND OPT FOR LESS STUDY, DEPENDING OF COURSE ON HOW MUCH THEY ARE MOTIVATED TO EARN GOOD GRADES. ANSWERS WILL VARY FROM STUDENT TO STUDENT.)

$ $ WHO PAYS? $ $



The Southeastern Power Company decided at its Board of Directors meeting to spend $4,100,000 to reduce the air pollution created by its Clear City plant by 70%. (YOU MAY WANT TO REVIEW THE ACTIVITY SHEET, "QUESTION: IS PERFECT ALWAYS BEST?" BEFORE COMPLETING THIS ACTIVITY.) Company executives also approved a motion directing the company economist to add this $4.1 million expenditure to the $42 million rate hike being presented to the Public Utilities Commission of the state in which Clear City is located. A "news leak" developed and citizens are angry that they will be asked to pay, through increased electricity rates, for cleaning up pollution which they claim they never caused. The next week the company's annual report was released, and newspaper headlines throughout the state read, "Southeastern Power Reports Earnings of $48 million in 1982." A groundswell of public support develops for the company to pay for pollution control out of its $48 million of profit.

Use the above reading to answer the following questions.

1. The company reported a $48 million profit. Many of its customers felt this profit was "excessive." What other information would you like to have before making a judgment as to whether this amount of profit is excessive? (AN ECONOMIST SEES PROFIT AS A RETURN FOR TAKING RISKS. (SEE THE ACTIVITY SHEET ON MEASURING PROFITS.) STOCKHOLDERS IN THE COMPANY COULD HAVE EARNED INTEREST ON THEIR FUNDS IN GUARANTEED, NO RISK FINANCIAL SECURITIES. INSTEAD, THEY INVESTED IN THE UTILITY. WHAT % RETURN ON THEIR INVESTMENT – I.E., ON STOCKHOLDERS EQUITY – IS THE $48 MILLION? A RETURN OF 12-16% IS ABOUT AVERAGE FOR MOST U.S. CORPORATIONS, AND NOT MUCH HIGHER THAN RETURNS AVAILABLE ON SAFE, GUARANTEED BONDS OR OTHER FINANCIAL CERTIFICATES.)
2. If the Public Utilities Commission approves the total rate increase ($46.1 million), who will pay for the air pollution control? (THE UTILITY COMPANY'S CONSUMERS, IF THEY CONTINUE TO BUY ABOUT THE SAME AMOUNT OF, OR MORE, ELECTRICITY.)

   How will this charge be assessed? (ON MONTHLY UTILITY BILLS.)
3. If the Public Utilities Commission does not approve the rate increase hike and the company goes ahead and installs the equipment, who will pay for the air pollution control? (INITIALLY STOCKHOLDERS, THROUGH LOWER PROFITS.)

   What effects might this eventually have on the company's power customers? (IF LOWER PROFITS LEAD TO A WEAKER COMPANY ITS CREDIT RATING MAY DROP, REQUIRING HIGHER INTEREST PAYMENTS ON ALL FUTURE BORROWING. THOSE HIGHER COSTS WILL BE PAID, IN PART, BY CUSTOMERS.)
4. In a television interview during the public debate, the company economist made the following statement: "The basic problem is that all along consumers have been paying an artifically low price for electricity." What do you think the economist means by this statement? (THE POLLUTION IMPOSED COSTS ON PEOPLE THAT THE UTILITY COMPANY AND ITS CUSTOMERS WEREN'T PAYING. IN A SENSE, THEY ARE NOW FACING THE REAL COSTS OF OPERATING THE UTILITY.)
5. Why was the utility able to pollute the air for so long? (AIR IS ANOTHER RESOURCE OWNED "IN COMMON," WITH POORLY DEFINED PROPERTY RIGHTS. IF IT WERE POSSIBLE TO DEFINE CLEARLY PROPERTY RIGHTS TO AIR, POLLUTION WOULD NOT HAVE OCCURRED LONG WITHOUT THE CONSENT OF THE OWNER.)

After you have answered the above questions, your teacher will divide the class into two groups; one group to present the case for approval of the rate increase, one group to present the case for paying pollution control expenses out of company profits. After sharing individual responses to the above questions, each group should select one representative to present its case to the entire class. Your teacher will serve as the regulatory commission and determine which presentation is most effective, or appoint someone to serve as the commission.

HOW DO WE GET MORE?

In many cities in the United States, large and small, people are purchasing and renovating old, run-down houses in once magnificent residential areas near the downtown business district. Middle- and upper-income families largely account for this modern housing trend. Pride runs so high in some cities that certain residential areas host "open houses" to show off the results of owners' labor and investments.

1. Why might a family be motivated to buy a dilapidated home in an area near the central business district? (SAVE ON TRANSPORTATION COSTS; BUY OLD HOUSES WITH LARGE LOTS AT LOW PRICES.)
2. As each new incoming family purchases and renovates an older home in the area, what will happen to the value of other properties in the neighborhood? (THEY WILL RISE.)
3. Will existing homeowners compensate an incoming family for the value of the new owner's renovation will add to other properties? Explain your reasoning. (NOT DIRECTLY – THEY BENEFIT WITHOUT MAKING SUCH PAYMENTS. HOWEVER, TAX LAWS AND WORK ON THEIR OWN PROPERTY MAY SERVE TO "REPAY" THE NEW OWNERS.)
4. Does *everyone* benefit from the renovation of older homes? Can you identify a cost associated with this housing trend? (NEW HOME BUILDERS MAY BE HURT, UNLESS THEY CAN DO RENOVATION WORK AS WELL.)

The above situation illustrates external or "spillover" benefits. An external benefit means that someone other than the buyer and seller in a transaction is made better off. Since buyers and sellers do not receive all of the benefits involved, too few resources are allocated to the production of goods and services which provide external benefits. In the case described above, what actions might encourage the "production" of goods (renovated homes) which result in external benefits? (SUBSIDIES, TAX CREDITS, ETC., THAT REDUCE THE COST OF RENOVATION.)

How might one determine whether such actions were economically justifiable? (IN GENERAL, COMPARE THE COSTS OF SUCH PROGRAMS TO THE EXPECTED BENEFITS.)

Explain how each of the actions below *might* result in external benefits.

1. A local industry constructs a ball field for the use of its employees. (SUCH PLAYGROUNDS ARE OFTEN USED BY OTHER GROUPS – E.G., LITTLE LEAGE TEAMS – AS WELL AS EMPLOYEE GROUPS.)
2. Your best friend is vaccinated against Hong Kong flu. (YOUR FRIEND BENEFITS BECAUSE HE OR SHE IS LESS LIKELY TO GET THE FLU, BUT YOU BENEFIT TOO BECAUSE YOU ARE NOW LESS LIKELY TO CATCH THE FLU FROM YOUR FRIEND.)
3. The provision of public elementary and secondary education for all citizens. (EXTERNAL BENEFITS MAY INCLUDE LOWER PUBLIC EXPENDITURES ON UNEMPLOYMENT AND POVERTY RELIEF PROGRAMS, LOWER CRIME RATES, ETC.)
4. The teacher assigns students to five-member committees for class projects. (THE CLASS OVERALL ENJOYS ART PROJECTS, ETC., POSTED IN THE CLASS; BENEFITS FROM GOOD WILL DEVELOPED FOR THE CLASS; ETC.)

Can you identify another example of an action which results in external benefits? How might more of that action be encouraged? (CONSIDER THE EXAMPLES OF LIGHTHOUSES AND FIREWORKS DISPLAYS, CARPOOLING, ETC.)

Can you give examples of external or spillover costs? (POLLUTION, TRAFFIC CONGESTION, AN "UNDESIRABLE" NEIGHBOR, AS IN THE FILM.)